Drinking Water Surveillance Program

CORNWALL WATER TREATMENT PLANT

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CORNWALL
WATER TREATMENT PLANT

DRINKING WATER SURVEILLANCE PROGRAM

ANNUAL REPORT 1988

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EXECUTIVE SUMMARY

DRINKING WATER SURVEILLANCE PROGRAM

CORNWALL WATER TREATMENT PLANT
1988 ANNUAL REPORT

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to eventually include all municipal supplies in Ontario. Currently, 52 plants are being monitored.

The Cornwall Water Treatment Plant is a conventional treatment plant which treats water from Lake St. Lawrence. The process consists of coagulation, flocculation and sedimentation, filtration, disinfection and fluoridation. This plant has a design capacity of 100 x 1000 m^3/day and serves a population of approximately 46,000.

Samples of the raw and treated water from the plant and from two distribution system sites were taken on a monthly basis and analyzed for approximately 160 parameters, 10 times during 1988. Parameters were divided into the following groups Bacteriological, Inorganic and Physical(Laboratory Chemistry, Field Chemistry and Metals) and Organics (Chloroaromatics, Chlorophenols, Pesticide and PCB, Phenolics, Polynuclear Aromatic Hydrocarbons, Specific Pesticides and Volatiles). Specific Pesticides and Chlorophenols were analysed in June and November only.

A summary of results is shown in Table 1.

Inorganic and Physical parameters (Laboratory Chemistry, Field Chemistry and Metals) were below applicable health related ODWOs.

Of approximately 110 Organic parameters tested for on a monthly basis, none exceeded health related guidelines.

During 1988 the DWSP sampling results indicated that the Cornwall Water Treatment Plant produced good quality water at the plant and this quality was maintained in the distribution system.

TABLE 1

DRINKING WATER SURVEILLANCE PROGRAM CORNWALL WTP

SUMMARY TABLE BY SCAN

		RAW			TREATED			SITE 1			SITE 2			SITE 3		
	SCAN	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE	TESTS	POSITIVE	%POSITIVE
	BACTERIOLOGICAL	43	38	88	43	8	18	35	13	37	8	6	75	56	24	42
	CHEMISTRY (FLD)	36	36	100	71	71	100	80	80	100	22	22	100	111	111	100
	CHEMISTRY (LAB)	246	207	84	247	190	76	321	268	83	111	102	91	395	321	81
	METALS	288	139	48	288	141	48	423	247	58	141	90	63	517	302	58
	CHLOROAROMATICS	154	0	0	168	0	0	84	0	0	42	0	0	140	0	0
	CHLOROPHENOLS	12	0	0	6	0	0	.	.	.	.	.	.	.	.	.
	PAH	170	0	0	187	0	0	.	.	.	.	.	.	.	.	.
	PESTICIDES & PCB	377	0	0	398	0	0	231	0	0	102	0	0	341	0	0
	PHENOLICS	12	4	33	12	5	41	.	.	.	.	.	.	.	.	.
	SPECIFIC PESTICIDES	56	0	0	28	0	0	0	0	0	0	0	0	0	0	0
	VOLATILES	316	0	0	316	48	15	230	31	13	86	12	13	287	42	14
TOTAL		1710	424		1764	463		1404	639		512	232		1847	800	

NO HEALTH-RELATED GUIDELINES WERE EXCEEDED

A POSITIVE VALUE DENOTES THAT THE RESULT IS GREATER THAN THE STATISTICAL LIMIT OF DETECTION AND IS QUANTIFIABLE
A '.' INDICATES THAT NO SAMPLE WAS TAKEN

DRINKING WATER SURVEILLANCE PROGRAM

CORNWALL WATER TREATMENT PLANT
1988 ANNUAL REPORT

INTRODUCTION

The Drinking Water Surveillance Program (DWSP) for Ontario is a monitoring program providing immediate, reliable, current information on drinking water quality. The DWSP officially began in April 1986 and is designed to eventually include all municipal supplies in Ontario. Currently, 52 plants are being monitored.

The DWSP was initiated in February, 1987 with two distribution system sites and in September at the Water Treatment Plant. An Annual Report was published for 1987 (ISSN 0840-5298).

This report contains information and results for 1988.

PLANT DESCRIPTION

The Cornwall Water Treatment Plant is a conventional treatment plant which treats water from Lake St. Lawrence. The process consists of coagulation, flocculation, sedimentation, filtration, disinfection and fluoridation. The plant has a rated capacity of 100 x 1000 m^3/day and sample day flows ranging from 35.1 x 1000 m^3/day to 72.7 x 1000 m^3/day. This plant serves a population of approximately 46,000.

The plant location is shown in Figure 1. Plant process details, in a block schematic, are shown in Figure 2. General plant information is presented in Table 2.

METHODS

Water samples were obtained from four DWSP approved locations;

i) Plant Raw - The water originated from the intake pipe prior to chlorination and was sampled through a stainless steel sample line. The sample tap is located in the screen house.

ii) Plant Treated - The water originated at the treated suction well after addition of all treatment chemicals and was sampled through a stainless steel sample line. The sample tap is located in the plant's laboratory.

iii) Distribution System - Site 1 - This house is approximately 5 kilometers from the plant. Water was sampled through copper plumbing from the basement laundry tap. Sampling was discontinued at this house in August.

iv) Distribution System - Site 2 - This house is approximately 5 kilometers from the plant. Water was sampled through copper plumbing from the kitchen sink. Sampling began at this house in September.

v) Distribution System - Site 3 - This house is approximately 6 kilometers from the plant. Water was sampled

FIGURE 1

DRINKING WATER SURVEILLANCE PROGRAM

SITE LOCATION MAP

CORNWALL WATER TREATMENT PLANT

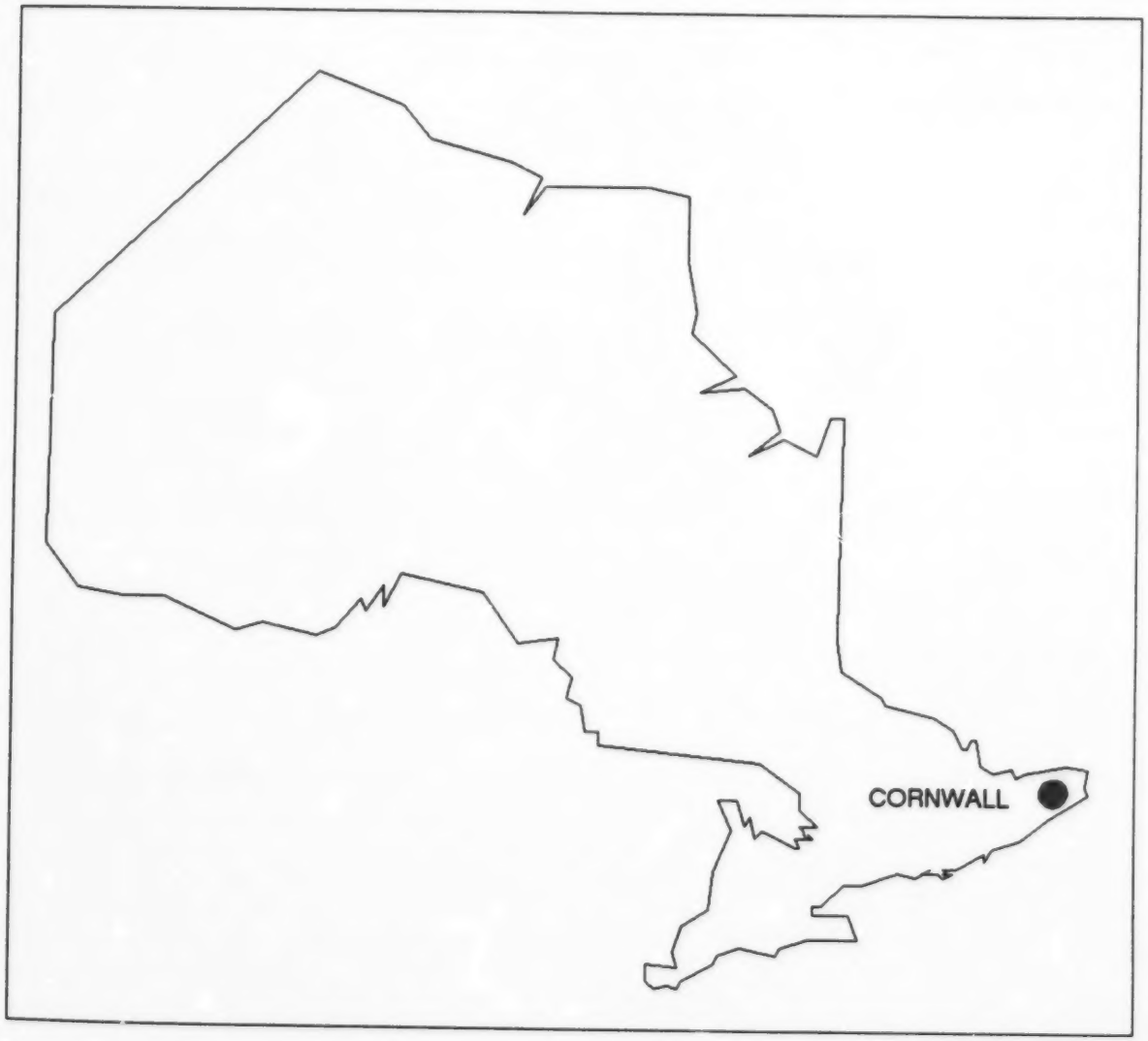

Figure 2

CORNWALL WATER TREATMENT PLANT

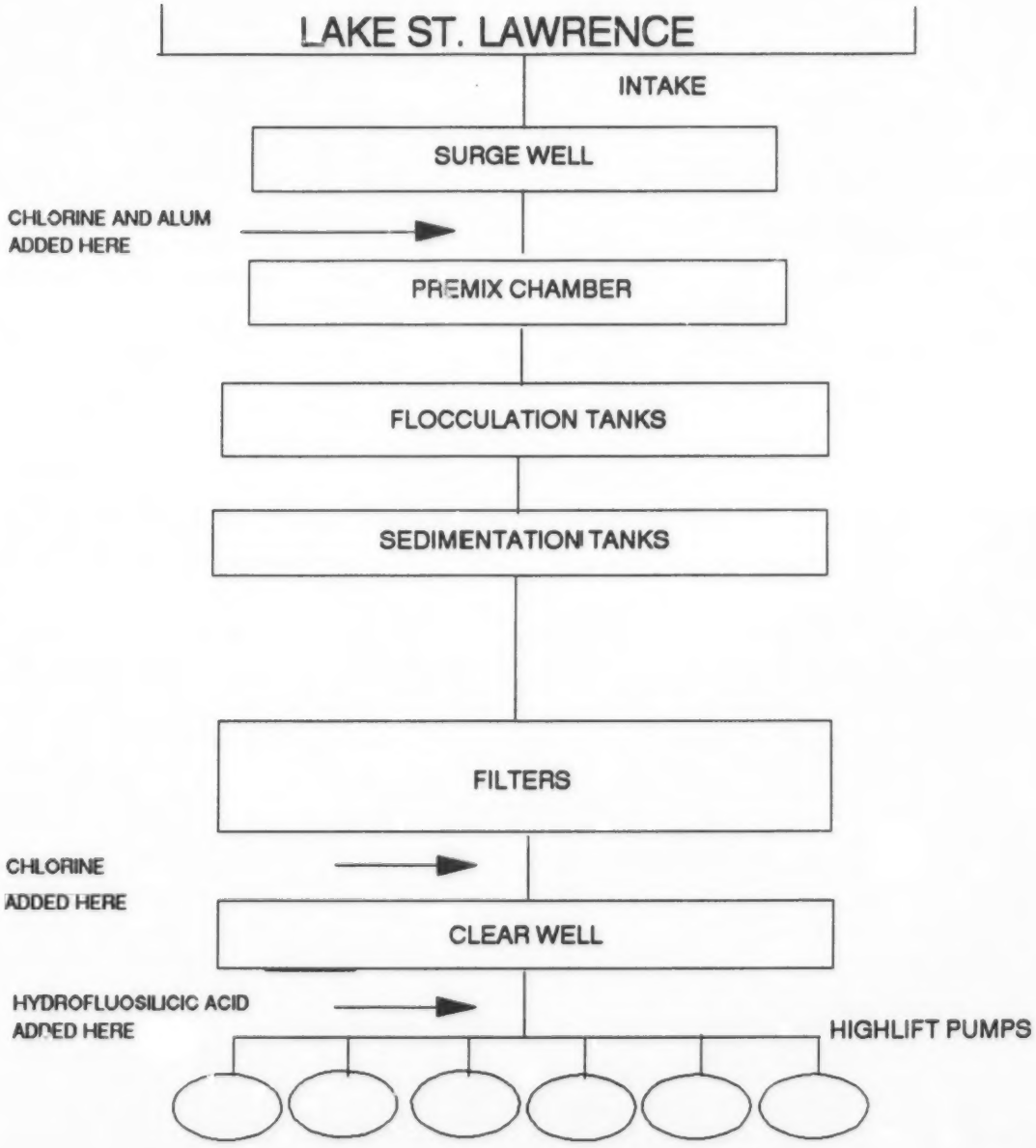

TABLE 2

DRINKING WATER SURVEILLANCE PROGRAM ANNUAL REPORT

GENERAL INFORMATION

CORNWALL WATER TREATMENT PLANT

LOCATION:	861 SECOND STREET WEST CORNWALL, ONTARIO (613-932-2235)
SOURCE:	RAW WATER SOURCE - LAKE ST. LAWRENCE
DESIGN CAPACITY:	100 (1000 M^3/DAY)
OPERATION:	MUNICIPAL
PLANT SUPERINTENDENT:	MR C. HEDLEY
MINISTRY REGION:	SOUTHEASTERN
DISTRICT OFFICER:	MR G.J. MCKENNA

MUNICIPALITY SERVED	POPULATION
CORNWALL	45,980

through copper plumbing from the basement laundry tap.

Sample lines in the plant were flushed prior to sampling to ensure that the water obtained was indicative of its origin and not residual water standing in the sample line.

At both distribution system locations two types of samples were obtained: a standing and a free flow. The standing sample consisted of water that had been in the household plumbing and service connection for a minimum of six hours. These samples are used to make an assessment of the amount by which levels of inorganic compounds and metals may be changed on standing due to leaching from (or deposition on), the plumbing system. The only analyses carried out on the standing samples therefore, are General Chemistry and Metals. The free flow sample represented fresh water from the distribution main that had been flowing at the sample tap for five minutes before being sampled.

Attempts were made to capture the same block of water at each sampling point by taking the retention time into consideration. The retention time was calculated by dividing the volume of water between the two sampling points by the sample day flow. For example, if it was determined that the retention time within the plant was five hours then there would be a five hour interval between the raw and treated sampling. Similarly, if it was estimated that it took approximately one day for the water travel from the plant to the distribution system site, this site would be

sampled one day after the treated water from the plant.

Stringent DWSP sampling protocols were followed to ensure that all samples were taken in a uniform manner.

Sample day flows, treatment chemical dosages and Field Chemistry measurements were recorded on the day of sampling and were entered onto the DWSP data base as submitted.

RESULTS

Water at the treatment plant and at two sites in the distribution system was sampled twelve times in 1988. Sampling at Site 1 was discontinued in August and sampling at Site 2 was started in September. Specific Pesticides and Chlorophenols were only analysed in November. Polynuclear Aromatic Hydrocarbons and Phenolics are only analysed in the raw and treated water at the plant.
As a result of an unforeseen emergency the laboratory capacity was exceeded and analysis for volatiles could not be carried out when the samples were received. Since analysis for volatiles is no longer valid after four weeks of storage, volatile results for February are not available.

Table 3 contains information on the sample day retention time, flow rate and treatment chemicals used and their associated dosages.

Table 4 is a summary break-down of the number of water samples analysed by parameter and by water type. The number of times that a positive or trace result was detected is also reported.

Positive denotes that the result is greater than the statistical limit of detection established by the Ministry of the Environment (MOE) laboratory staff and is quantifiable. Trace (<T) denotes that the level measured is greater than the lowest value detectable by the method but lies so close to the detection limit that it cannot be confidently quantified.

Table 5 presents the results for parameters detected on at least one occasion.

Table 6 is a list of all paramters analysed in DWSP.

Associated guidelines and detection limits are also supplied on tables 5 and 6. Parameters are listed alphabetically within each scan.

DISCUSSION

General

Water quality is judged by comparison with the Ontario Drinking Water Objectives (ODWOs) as defined in the 1984 publictaion (ISBN 0-7743-8985-0). The Province of Ontario has health related and aesthetic objectives for 49 parameters, these are currently under review. When an ODWO is not available guidelines/limits from other agencies are consulted. The Parameters Listing System (PALIS) recently published (ISBN 0-7729-4461-x) by the MOE catalogues and keeps current over 1750 guidelines for 650 parameters from agencies throughout the world.

Although some of the parameters measured on DWSP may be present in the raw and treated water as a result of pollution, many of the compounds detected are naturally occuring or are treatment by-products.

Plant operational personnel address occurrences of taste and odour or biological water quality parameters. The DWSP does not assess these aspects of the water supply.

As stated under Results, traces do not indicate quantifiable results as defined by established MOE laboratory analytical reporting protocols. While they can be useful in trend analysis or confirmation of the presence of a specific contaminant that is repeatedly detected at these levels, the occasional finding of a trace level of a contaminant is not considered to be significant. **DISCUSSION OF GUIDELINES AND LIMITS THEREFORE, IS ONLY CONDUCTED ON POSITIVE RESULTS.**

Bacteriology

Positive results for the Bacteriology scan were present eight times in the treated water, thirteen times in the Site 1 water samples, six times in the Site 2 water samples and twenty-four times in the Site 3 water samples. In almost all cases the positive parameters were Standard Plate Count, Total Coliform MF and/or Total Coliform Background.

The presence/absence (P.A.) test determined Coliforms to be present in the January and February samples from the distribution system Site 3. The District Officer was notified. Aerononas was determined to be present in the August Site 3 sample as the result of a positive P.A. test.

Standard Plate Count is a test used to supplement routine analysis for Coliform bacteria. The limit for Standard Plate Count (at 35°C, after 48 hours) in the ODWOs is 500 organisms per mL based on a geometric mean of 5 or more samples. High Standard Plate Counts were present in one treated water sample, two Site 1 samples, one Site 2 sample and three Site 3 samples. This may be indicative of deterioration in conditions in the distribution system. A Total Chlorine Residual of at least 0.100 mg/L was detected at all sampling locations however, water temperatures became elevated during the summer months. The high Standard Plate Counts obtained for the months of July, August and September probably reflect increased bacteriological growth as a result of this.

Guidelines for bacteriological sampling and testing of a supply are developed to maintain a proper supervision of its bacteriological quality; the routine monitoring program usually requires the taking of multiple samples in a given system. Full interpretation of bacteriological quality cannot be made on the basis of single samples. Further, bacteriological limits were developed in acknowledgement that the presence of coliforms may be detected due to their non-uniform distribution throughout the distribution system and the fact that their enumeration is subject to considerable variation. For these reasons, the occasional finding

of low numbers of coliform organisms is not unexpected. However the finding of Coliforms in the distribution system together with the elevated Standard Plate Counts in the summer months appears to warrant close monitoring. Routine bacteriological monitoring, as outlined in the ODWOs is carried out by the operating authority.

Inorganic and Physical Parameters

Laboratory and Field Chemistry

The results for the Laboratory Chemistry and Field Chemistry scans were below applicable health related ODWOs.

Turbidity in water is caused by the presence of suspended matter such as clay, silt, colloidal particles, plankton and other microscopic organisms. The most important potential health effect of Turbidity is its interference with disinfection in the treatment plant and the maintenance of a chlorine residual. The ODWO of 1 Formazin Turbidity Unit (FTU) is only applicable to treated water leaving the plant.

The Langelier Index is used extensively in estimating the corrosion potential of water. An increasingly negative index indicates the increasing possibility of corrosion. It is considered sound engineering practice to maintain a slightly positive Langelier Index. The Langelier Index for Cornwall is consistently positive.

It is desirable that the Temperature of drinking water be less than 15°C; the palatability of water is enhanced by its coolness. A

temperature below 15°C will tend to reduce the growth of nuisance organisms and hence minimize associated taste, colour, odour and corrosion problems. The temperature of the delivered water may increase in the distribution system due to the warming effect of the soil in late summer and fall and/or as a result of higher temperatures in the source water. The desired ODWO was exceeded fourteen times in the treated water and free flow distributed water.

As part of the treatment plant process, hydrofluosilicic acid is added to the treated water (Table 3). Where fluoridation is practiced, the Fluoride concentration recommended in the ODWO is 1.2 mg/L, plus or minus 0.2 mg/L. This level was generally not maintained. Table 3 indicates that the dosage of fluosilic acid added in February, March, July, September and December was not sufficient to maintain a 1.2 mg/L Fluoride residual.

Metals

The results reported for the Metals scan were below any applicable health related ODWOs.

Elevated levels of Copper, Lead and Zinc were detected in the standing samples as compared to the free flow distribution samples thus, indicating that small quantities of these metals were leached from the household plumbing as the water stood overnight. Although the Langelier Index indicates minimal potential for corrosion some metals will be leached in standing samples in most supplies.

At present, there is no evidence that Aluminum is physiologically

harmful and no health limit for drinking water has been specified. The measure of residual Aluminum in the treated water is important to indicate the efficiency of the treatment process. The ODWOs indicate that a useful guideline is to maintain a residual below 100 ug/L as Al in the water leaving the plant to avoid problems in the distribution system. Aluminum values exceeded the ODWO operational guideline three times in the treated water. The aluminum results from Table 5 along with the Alum dosages reported on Table 3 show that Alum was not added in January, February, March, July, August, November or December.

Organic Parameters

Chloroaromatics

The results of the Chloroaromatics scan showed that none were detected.

Chlorophenols

The results of the Chlorophenols scan showed that no parameters were detected.

Pesticides and PCB (Polychlorinated Biphenyl)

The results of the Pesticides and PCB scan showed that no PCBs were detected and that two pesticides were detected:

Alpha BHC

Lindane

There are several isomers of BHC (Benzene Hexachloride); gamma BHC is the active ingredient of the pesticide Lindane, while alpha BHC

is the predominant isomer found in surface water from the Great Lakes Basin as indicated in results from other water supplies on DWSP.

Alpha BHC was detected at trace levels, five times in the raw water, eight times in the treated water, four times in the distribution sytem Site 1 water, once in the Site 2 water and six times in the Site 3 water.

Lindane was detected at trace levels once in the distribution system Site 1 water and once in the Site 3 water.

Specific Pesticides

Results of the Specific Pesticides scan showed that no parameters were detected.

Phenolics

The maximum desirable concentration of phenolic substances in drinking water is 2.0 ug/L. This limit has been set primarily to prevent the occurrence of undesirable tastes and odours, particularly in chlorinated water. Phenolics were detected at 1.6 ug/L in the June raw water sample, 1.2 ug/L in the August treated water sample, 2.0 ug/L in the raw water and 2.8 ug/L in the treated water sampled in September, 1.2 ug/L in the October treated water sample, 1.4 ug/l in the raw water and 1.6 ug/L in the treated water for November and 1.0 ug/L in the December raw water sample and treated water sample. Phenolics were detected at trace levels, eight times in the raw water and seven times in the treated water. Phenolic compounds are present in the aquatic environment as a

result of natural and/or industrial processes.

Polynuclear Aromatic Hydrocarbons (PAH)

Results of the PAH scan showed that no PAHs were detected.

Volatiles

The results of the Volatiles scan showed that five parameters, other than Trihalomethanes(THMs), were detected:

Toluene

Ethylbenzene

Styrene

Methylene Chloride

1,1,1-Trichloroethane

Toluene was detected three times in the treated water, and once in the distribution system Site 3 water. Trace levels were detected, four times in the treated water, twice in the distribution system Site 1 water and once in the Site 2 and Site 3 water. The detection of toluene at low, trace levels is a laboratory artifact derived from the analytical methodology. The purge-and-trap analytical technique depends on the purging of the volatile organics in the water sample with helium gas onto a Tenax trapping column. The volatile materials are subsequently thermally desorbed, separated and quantified. Tenax, a toluene-like polymeric material, tends to decompose sporadically upon heating into toluene and other aromatic components (ethylbenzene and xylene) giving instrument blanks in the order of 0.05 ug/L.

The detected trace levels of Styrene are also considered to be

laboratory artifacts due to the outgassing of monomeric styrene from the polystyrene shipping containers. The sporadic background levels from this source are in the order of 0.05 ug/L.

Ethylbenzene was detected at trace levels, eight times in the treated water, three times in the distribution Site 1 water and twice in the Site 3 water.

The volatiles listed above are typically found on an occasional basis at other water supplies included on the DWSP usually at trace levels.

Methylene Chloride was detected in the distribution system Site 3 water at 2.0 ug/L in January. This value was considered unreliable due to suspected contamination.

1,1,1-Trichloroethane was detected at trace levels, twice in the Site 3 water.

Trihalomethanes (THMs) are known to be produced during the water treatment process and will always only occur in chlorinated surface waters. THMs are comprised of Chloroform, Chlorodibromomethane and Dichlorobromomethane. Bromoform occurs occasionally. Results are reported for the individual compounds as well as for total THMs.

Chloroform, Chlorodibromomethane, Dichlorobromomethane and total THMs were always detected in all treated waters. Bromoform was detected at trace levels in all treated and distribution system waters. All Total THM occurrences, ranging from 15.45 ug/L to 57.8

ug/L, were well below the ODWO of 350 ug/L.

CONCLUSIONS

The Cornwall Water Treatment Plant for the sample year of 1988 produced good quality water that was maintained in the distribution system.

While the parameters measured on DWSP may not have exceeded drinking water guidelines during 1988, the water cannot be considered to be satisfactory until the conventional treatment process (addition of the prime coagulant eg. alum) is routinely adhered to.

RECOMMENDATIONS

Two recommendations can be made;

1) Effective treatment should be provided to ensure safety and consistency in the quality of all waters. The current Ministry policy (#15-14-01) requires that all surface waters shall use treatment processes consisting of coagulation-flocculation, filtration (or equivalent) and disinfection. Surface supplies without such treatment are subject to contamination with biological organisms, including algae, protozoa and other organisms that can cause taste and odour and other aesthetic problems in the distributed water.

2) The application of Hydrofluosilicic acid should be monitored to

ensure that the appropriate fluoride levels in the distributed water are maintained.

TABLE 3

DRINKING WATER SURVEILLANCE PROGRAM CORNWALL WTP SAMPLE DAY CONDITIONS FOR 1988

	SAMPLE DAY CONDITIONS		TREATMENT CHEMICAL DOSAGES (MG/L)			
			PRE-CHLORINATION	COAGULATION	FLUORIDATION	POST-CHLORINATION
DATE	RETENTION TIME(HRS)	FLOW (1000 M3)	CHLORINE	ALUM LIQUID	HYDROFLUOSILICIC ACID	CHLORINE
JAN 19	6.2	35.1	.10	.	1.00	.30
FEB 16	5.5	39.5	.10	.	.60	.40
MAR 22	4.5	47.7	.10	.	1.00	.40
APR 19	5.6	38.6	.10	12.50	1.00	.40
MAY 17	4.0	54.5	.10	12.50	1.00	.40
JUN 21	3.0	72.7	.10	.	.90	.40
JUL 19	4.8	45.4	.06	.	1.10	.40
AUG 16	5.7	37.8	.10	.	.90	.40
SEP 20	3.7	58.0	.10	12.00	1.00	.50
SEP 28	4.0	54.5	.10	.	1.00	.50
OCT 18	4.3	50.0	.10	9.87	1.00	.50
NOV 22	5.6	38.6	.10	.	1.00	.30
DEC 14	4.3	50.0	.10	.	1.00	.30

TABLE 4

DRINKING WATER SURVEILLANCE PROGRAM CORNWALL

SUMMARY TABLE OF RESULTS (1988)

SCAN	PARAMETER	RAW			TREATED			SITE 1			SITE 2			SITE 3		
		TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
BACTERIOLOGICAL	AEROMONAS SP	.	.	.	.	.	.	.	.	.	.	.	.	3	1	0
	E. COLI P/A	.	.	.	.	.	.	.	.	.	.	.	.	3	0	0
	FECAL COLIFORM MF	12	9	0	.	.	.	.	.	.	.	.	.	.	.	.
	FECAL COLIFORM	.	.	.	.	.	.	.	.	.	.	.	.	3	0	0
	STANDRD PLATE CNT MF	7	7	0	12	7	0	9	9	0	3	3	0	11	10	0
	P/A BOTTLE	.	.	.	7	0	0	8	0	0	.	.	.	8	3	0
	STAPH AUREUS	.	.	.	.	.	.	.	.	.	.	.	.	3	0	0
	COLIFORM	.	.	.	.	.	.	.	.	.	.	.	.	3	2	0
	TOTAL COLIFORM MF	12	11	0	12	0	0	9	1	0	2	0	0	11	3	0
	T COLIFORM BCKGRD MF	12	11	0	12	1	0	9	3	0	3	3	0	11	5	0
*TOTAL SCAN BACTERIOLOGICAL		43	38	0	43	8	0	35	13	0	8	6	0	56	24	0
*TOTAL GROUP BACTERIOLOGICAL		43	38	0	43	8	0	35	13	0	8	6	0	56	24	0
CHEMISTRY (FLD)	FLD CHLORINE (COMB)	.	.	.	12	12	0	12	12	0	2	2	0	3	3	0
	FLD CHLORINE FREE	.	.	.	12	12	0	5	5	0	.	.	.	22	22	0
	FLD CHLORINE (TOTAL)	.	.	.	12	12	0	12	12	0	2	2	0	22	22	0
	FLD PH	12	12	0	12	12	0	17	17	0	6	6	0	22	22	0
	FLD TEMPERATURE	12	12	0	12	12	0	18	18	0	6	6	0	22	22	0
	FLD TURBIDITY	12	12	0	11	11	0	16	16	0	6	6	0	20	20	0
*TOTAL SCAN CHEMISTRY (FLD)		36	36	0	71	71	0	80	80	0	22	22	0	111	111	0
CHEMISTRY (LAB)	ALKALINITY	12	12	0	12	12	0	18	18	0	6	6	0	22	22	0

		SITE														
		RAW			TREATED			SITE 1			SITE 2			SITE 3		
SCAN	PARAMETER	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE	TOTAL	POSITIVE	TRACE
CHEMISTRY (LAB)	CALCIUM	12	12	0	12	12	0	18	18	0	6	6	0	22	22	0
	CYANIDE	12	0	0	12	0	0	9	0	0	3	0	0	11	0	0
	CHLORIDE	12	12	0	12	12	0	18	18	0	6	6	0	22	22	0
	COLOUR	12	8	4	12	0	10	18	6	12	6	4	2	22	1	21
	CONDUCTIVITY	12	12	0	12	12	0	18	18	0	6	6	0	22	22	0
	FLUORIDE	12	12	0	12	12	0	18	18	0	6	6	0	22	22	0
	HARDNESS	12	12	0	12	12	0	18	18	0	6	6	0	22	22	0
	IONCAL	12	7	0	12	7	0	18	6	0	6	6	0	22	10	0
	LANGELIERS INDEX	11	11	0	12	12	0	18	18	0	6	6	0	22	22	0
	MAGNESIUM	12	12	0	12	12	0	18	18	0	6	6	0	22	22	0
	SODIUM	12	12	0	12	12	0	18	18	0	6	6	0	22	22	0
	AMMONIUM TOTAL	12	11	0	12	5	6	18	13	4	6	6	0	22	10	11
	NITRITE	12	8	4	12	4	8	18	3	13	6	2	4	22	5	16
	TOTAL NITRATES	12	12	0	12	11	0	18	18	0	6	6	0	22	21	1
	NITROGEN TOT KJELD	12	12	0	12	12	0	18	18	0	6	6	0	22	22	0
	PH	12	12	0	12	12	0	18	18	0	6	6	0	22	22	0
	PHOSPHORUS FIL REACT	12	5	7	12	10	2	.	.	.	.	.	.	.	.	.
	PHOSPHORUS TOTAL	12	6	6	12	3	9	.	.	.	.	.	.	.	.	.
	SULPHATE	7	7	0	7	7	0	6	6	0	6	6	0	10	10	0
	TURBIDITY	12	12	0	12	11	1	18	18	0	6	6	0	22	22	0
*TOTAL SCAN CHEMISTRY (LAB)		246	207	21	247	190	36	321	268	29	111	102	6	395	321	49
METALS	SILVER	12	0	2	12	0	3	18	1	13	6	0	2	22	0	11
	ALUMINUM	12	12	0	12	12	0	18	18	0	6	6	0	22	22	0
	ARSENIC	12	3	9	12	6	6	18	8	10	6	4	2	22	8	14
	BARIUM	12	12	0	12	12	0	18	18	0	6	6	0	22	22	0
	BORON	12	12	0	12	12	0	18	18	0	6	6	0	22	21	1
	BERYLLIUM	12	0	8	12	0	7	18	0	7	6	0	5	22	0	12
	CADMIUM	12	0	1	12	0	2	18	1	6	6	1	4	22	0	5
	COBALT	12	0	12	12	0	10	18	0	16	6	0	6	22	0	20

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE	SITE 3 TOTAL	SITE 3 POSITIVE	SITE 3 TRACE
METALS	CHROMIUM	12	7	5	12	6	6	18	8	10	6	6	0	22	9	13
	COPPER	12	8	4	12	7	5	18	18	0	6	6	0	22	22	0
	IRON	12	0	12	12	0	9	18	7	11	6	6	0	22	7	15
	MERCURY	12	3	2	12	3	2	9	2	0	3	0	2	11	5	4
	MANGANESE	12	12	0	12	8	4	18	18	0	6	6	0	22	22	0
	MOLYBDENUM	12	12	0	12	12	0	18	18	0	6	6	0	22	22	0
	NICKEL	12	1	11	12	1	10	18	6	12	6	0	6	22	10	11
	LEAD	12	2	10	12	3	7	18	18	0	6	6	0	22	21	1
	ANTIMONY	12	11	1	12	11	1	18	16	2	6	5	1	22	20	2
	SELENIUM	12	0	10	12	0	10	18	0	18	6	0	6	22	0	20
	STRONTIUM	12	12	0	12	12	0	18	18	0	6	6	0	22	22	0
	TITANIUM	12	12	0	12	12	0	18	18	0	6	6	0	22	21	1
	THALLIUM	12	0	6	12	0	4	18	0	8	6	0	3	22	0	8
	URANIUM	12	12	0	12	12	0	18	18	0	6	6	0	22	22	0
	VANADIUM	12	0	12	12	3	9	18	0	18	6	2	4	22	4	18
	ZINC	12	8	4	12	9	3	18	18	0	6	6	0	22	22	0
*TOTAL SCAN METALS		288	139	109	288	141	98	423	247	131	141	90	41	517	302	156
*TOTAL GROUP INORGANIC & PHYSICAL		570	382	130	606	402	134	824	595	160	274	214	47	1023	734	205
CHLOROAROMATICS	HEXACHLOROBUTADIENE	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	123 TRICHLOROBENZENE	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	1234 T-CHLOROBENZENE	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	1235 T-CHLOROBENZENE	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	124 TRICHLOROBENZENE	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	1245 T-CHLOROBENZENE	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	135 TRICHLOROBENZENE	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	HCB	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	HEXACHLOROETHANE	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	OCTACHLOROSTYRENE	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	PENTACHLOROBENZENE	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE	SITE 3 TOTAL	SITE 3 POSITIVE	SITE 3 TRACE
CHLOROAROMATICS	236 TRICHLOROTOLUENE	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	245 TRICHLOROTOLUENE	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	26A TRICHLOROTOLUENE	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
*TOTAL SCAN CHLOROAROMATICS		154	0	0	168	0	0	84	0	0	42	0	0	140	0	0
CHLOROPHENOLS	234 TRICHLOROPHENOL	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	2345 T-CHLOROPHENOL	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	2356 T-CHLOROPHENOL	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	245-TRICHLOROPHENOL	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	246-TRICHLOROPHENOL	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	PENTACHLOROPHENOL	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
*TOTAL SCAN CHLOROPHENOLS		12	0	0	6	0	0	0	0	0	0	0	0	0	0	0
PAH	PHENANTHRENE	10	0	0	11	0	0	.	.	.	.	.	.	.	.	.
	ANTHRACENE	10	0	0	11	0	0	.	.	.	.	.	.	.	.	.
	FLUORANTHENE	10	0	0	11	0	0	.	.	.	.	.	.	.	.	.
	PYRENE	10	0	0	11	0	0	.	.	.	.	.	.	.	.	.
	BENZO(A)ANTHRACENE	10	0	0	11	0	0	.	.	.	.	.	.	.	.	.
	CHRYSENE	10	0	0	11	0	0	.	.	.	.	.	.	.	.	.
	DIMETH. BENZ(A)ANTHR	10	0	0	11	0	0	.	.	.	.	.	.	.	.	.
	BENZO(E) PYRENE	10	0	0	11	0	0	.	.	.	.	.	.	.	.	.
	BENZO(J) FLUORANTHEN	0	0	0	0	0	0	.	.	.	.	.	.	.	.	.
	BENZO(B) FLUORANTHEN	10	0	0	11	0	0	.	.	.	.	.	.	.	.	.
	PERYLENE	10	0	0	11	0	0	.	.	.	.	.	.	.	.	.
	BENZO(K) FLUORANTHEN	10	0	0	11	0	0	.	.	.	.	.	.	.	.	.
	BENZO(A) PYRENE	10	0	0	11	0	0	.	.	.	.	.	.	.	.	.
	BENZO(G,H,I) PERYLEN	10	0	0	11	0	0	.	.	.	.	.	.	.	.	.
	DIBENZO(A,H) ANTHRAC	10	0	0	11	0	0	.	.	.	.	.	.	.	.	.

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE	SITE 3 TOTAL	SITE 3 POSITIVE	SITE 3 TRACE
PAH	INDENO(1,2,3-C,D) PY	10	0	0	11	0	0	.	.	.	.	.	.	.	.	.
	BENZO(B) CHRYSENE	10	0	0	11	0	0	.	.	.	.	.	.	.	.	.
	ANTHANTHRENE	0	0	0	0	0	0	.	.	.	.	.	.	.	.	.
	CORONENE	10	0	0	11	0	0	.	.	.	.	.	.	.	.	.
*TOTAL SCAN PAH		170	0	0	187	0	0	0	0	0	0	0	0	0	0	0
PESTICIDES & PCB	ALDRIN	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	ALPHA BHC	11	0	5	12	0	8	6	0	4	3	0	1	10	0	6
	BETA BHC	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	LINDANE	11	0	0	12	0	0	6	0	1	3	0	0	10	0	1
	ALPHA CHLORDANE	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	GAMMA CHLORDANE	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	DIELDRIN	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	METHOXYCHLOR	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	ENDOSULFAN I	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	ENDOSULFAN II	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	ENDRIN	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	ENDOSULFAN SULPHATE	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	HEPTACHLOR EPOXIDE	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	HEPTACHLOR	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	MIREX	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	OXYCHLORDANE	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	OPDDT	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	PCB	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	DDD	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	PPDDE	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	PPDDT	11	0	0	12	0	0	6	0	0	3	0	0	10	0	0
	AMETRINE	12	0	0	12	0	0	9	0	0	3	0	0	11	0	0
	ATRAZINE	12	0	0	12	0	0	9	0	0	3	0	0	11	0	0
	ATRATONE	12	0	0	12	0	0	9	0	0	3	0	0	11	0	0

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE	SITE 3 TOTAL	SITE 3 POSITIVE	SITE 3 TRACE
PESTICIDES & PCB	CYANAZINE	12	0	0	12	0	0	9	0	0	3	0	0	11	0	0
	DES ETHYL ATRAZINE	7	0	0	7	0	0	3	0	0	3	0	0	5	0	0
	DES ETHYL SIMAZINE	7	0	0	7	0	0	3	0	0	3	0	0	5	0	0
	PROMETONE	12	0	0	12	0	0	9	0	0	3	0	0	11	0	0
	PROPAZINE	12	0	0	12	0	0	9	0	0	3	0	0	11	0	0
	PROMETRYNE	12	0	0	12	0	0	9	0	0	3	0	0	11	0	0
	METRIBUZIN	12	0	0	12	0	0	9	0	0	3	0	0	11	0	0
	SIMAZINE	12	0	0	12	0	0	9	0	0	3	0	0	11	0	0
	ALACHLOR	12	0	0	12	0	0	9	0	0	3	0	0	11	0	0
	METOLACHLOR	12	0	0	12	0	0	9	0	0	3	0	0	11	0	0
*TOTAL SCAN PESTICIDES & PCB		377	0	5	398	0	8	231	0	5	102	0	1	341	0	7
PHENOLICS	PHENOLICS	12	4	8	12	5	7	.	.	.	.	.	.	.	.	.
*TOTAL SCAN PHENOLICS		12	4	8	12	5	7	0	0	0	0	0	0	0	0	0
SPECIFIC PESTICIDES	TOXAPHENE	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2,4,5-T	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	2,4-D	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	24DCHLRPHENOXYBUTYRC	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	2,4 D PROPIONIC ACID	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	DICAMBA	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	PICHLORAM	0	0	0	0	0	0	.	.	.	.	.	.	.	.	.
	SILVEX	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	DIAZINON	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	DICHLOROVOS	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	CHLORPYRIFOS	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	ETHION	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	AZINPHOS-METHYL	0	0	0	0	0	0	.	.	.	.	.	.	.	.	.

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE	SITE 3 TOTAL	SITE 3 POSITIVE	SITE 3 TRACE
SPECIFIC PESTICIDES	MALATHION	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	MEVINPHOS	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	METHYL PARATHION	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	METHYLTRITHION	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	PARATHION	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	PHORATE	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	RELDAN	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	RONNEL	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	AMINOCARB	0	0	0	0	0	0	.	.	.	.	.	.	.	.	.
	BENOMYL	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	BUX	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	CARBOFURAN	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	CICP	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	DIALLATE	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	EPTAM	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	IPC	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	PROPOXUR	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	CARBARYL	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
	BUTYLATE	2	0	0	1	0	0	.	.	.	.	.	.	.	.	.
*TOTAL SCAN SPECIFIC PESTICIDES		56	0	0	28	0	0	0	0	0	0	0	0	0	0	0
VOLATILES	BENZENE	11	0	0	11	0	0	8	0	0	3	0	0	10	0	0
	TOLUENE	11	0	0	11	3	4	8	0	2	3	0	1	10	1	1
	ETHYLBENZENE	11	0	0	11	0	8	8	0	3	3	0	0	10	0	2
	P-XYLENE	11	0	0	11	0	0	8	0	0	3	0	0	10	0	0
	M-XYLENE	11	0	0	11	0	0	8	0	0	3	0	0	10	0	0
	O-XYLENE	11	0	0	11	0	0	8	0	0	3	0	0	10	0	0
	STYRENE	4	0	1	4	1	1	1	0	0	2	0	2	2	0	2
	1,1 DICHLOROETHYLENE	11	0	0	11	0	0	8	0	0	3	0	0	10	0	0
	METHYLENE CHLORIDE	11	0	0	11	0	0	8	0	0	3	0	0	10	1	0

SCAN	PARAMETER	SITE RAW TOTAL	RAW POSITIVE	RAW TRACE	TREATED TOTAL	TREATED POSITIVE	TREATED TRACE	SITE 1 TOTAL	SITE 1 POSITIVE	SITE 1 TRACE	SITE 2 TOTAL	SITE 2 POSITIVE	SITE 2 TRACE	SITE 3 TOTAL	SITE 3 POSITIVE	SITE 3 TRACE
VOLATILES	T1,2DICHLOROETHYLENE	11	0	0	11	0	0	8	0	0	3	0	0	10	0	0
	1,1 DICHLOROETHANE	11	0	0	11	0	0	8	0	0	3	0	0	10	0	0
	CHLOROFORM	11	0	1	11	11	0	8	8	0	3	3	0	10	10	0
	111, TRICHLOROETHANE	11	0	0	11	0	0	8	0	0	3	0	0	10	0	2
	1,2 DICHLOROETHANE	11	0	0	11	0	0	8	0	0	3	0	0	10	0	0
	CARBON TETRACHLORIDE	11	0	0	11	0	0	8	0	0	3	0	0	10	0	0
	1,2 DICHLOROPROPANE	11	0	0	11	0	0	8	0	0	3	0	0	10	0	0
	TRICHLOROETHYLENE	11	0	0	11	0	0	8	0	0	3	0	0	10	0	0
	DICHLOROBROMOMETHANE	11	0	0	11	11	0	8	8	0	3	3	0	10	10	0
	112 TRICHLOROETHANE	11	0	0	11	0	0	8	0	0	3	0	0	10	0	0
	CHLORODIBROMOMETHANE	11	0	0	11	11	0	8	7	1	3	3	0	10	10	0
	T-CHLOROETHYLENE	11	0	0	11	0	0	8	0	0	3	0	0	10	0	0
	BROMOFORM	11	0	0	11	0	10	8	0	7	3	0	3	10	0	9
	1122 T-CHLOROETHANE	11	0	0	11	0	0	8	0	0	3	0	0	10	0	0
	CHLOROBENZENE	11	0	0	11	0	0	8	0	0	3	0	0	10	0	0
	1,4 DICHLOROBENZENE	11	0	0	11	0	0	8	0	0	3	0	0	10	0	0
	1,3 DICHLOROBENZENE	11	0	0	11	0	0	8	0	0	3	0	0	10	0	0
	1,2 DICHLOROBENZENE	11	0	0	11	0	0	8	0	0	3	0	0	10	0	0
	TRIFLUOROCHLOROTOLUE	4	0	0	4	0	0	5	0	0	.	.	.	5	0	0
	ETHLYENE DIBROMIDE	11	0	0	11	0	0	8	0	0	3	0	0	10	0	0
	TOTL TRIHALOMETHANES	11	0	0	11	11	0	8	8	0	3	3	0	10	10	0
*TOTAL SCAN VOLATILES		316	0	2	316	48	23	230	31	13	86	12	6	287	42	16
*TOTAL GROUP ORGANIC		1097	4	15	1115	53	38	545	31	18	230	12	7	768	42	23
TOTAL		1710	424	145	1764	463	172	1404	639	178	512	232	54	1847	800	228

KEY TO TABLE 5 and 6

A ONTARIO DRINKING WATER OBJECTIVES (ODWO)
1. Maximum Acceptable Concentration (MAC)
1+. MAC for Total Trihalomethanes
1*. MAC for Bacteriological Analyses
Poor water quality is indicated when :
- total coliform counts > 0 < 5
- P/A Bottle Test is present after 48 hours
- Aeromonas organisms are detected in more than 25% of samples in a single submission or in successive submissions from the same sampling site
- Pseudomonas Aeruginosa, Staphylococcus Aureus and members of the Fecal Streptococcus group should not be detected in any sample
- Standard Plate Count should not exceed 500 organisms per ml at 35 ^{0}C within 48 hours

2. Interim Maximum Acceptable Concentration (IMAC)
3. Maximum Desirable Concentration (MDC)
4. Aesthetic or Recommended Operational Guideline
- hardness levels between 80 and 100 mg/L as calcium carbonate are considered to provide an acceptable balance between corrosion and incrustation, water supplies with a hardness >200 mg/L are considered poor and those in excess of 500 mg/L are unacceptable.

B HEALTH & WELFARE CANADA (H&W)
1. Maximum Acceptable Concentration (MAC)
2. Proposed MAC
3. Interim MAC
4. Aesthetic Objective (AO) (for xylenes, the AO is a total)

C WORLD HEALTH ORGANIZATION (WHO)
1. Guideline Value (GV)
2. Tentative GV
3. Aesthetic GV

D US ENVIRONMENTAL PROTECTION AGENCY (EPA)
1. Maximum Contaminant Level (MCL)
2. Suggested No-Adverse Effect Level (SNAEL)
3. Lifetime Health Advisory
4. EPA Ambient Water Quality Criteria

F EUROPEAN ECONOMIC COMMUNITY (EEC)
1. Health Related Guideline Level
2. Aesthetic Guideline Level
3. Maximum Admissable Concentration (MADC)

G CALIFORNIA STATE DEPARTMENT OF HEALTH-GUIDELINE VALUE

H USSR MAXIMUM PERMISSIBLE CONCENTRATION

I NEW YORK STATE AMBIENT WATER GUIDELINE

N/A NONE AVAILABLE

INTERPRETATION OF DATA

The interpretation of analytical results that are obtained from measurements near the limit of detection of the measurement process is subject to greater uncertainty than those at higher concentrations. The principle areas of concern relate to whether the substance has actually been detected, whether it has been properly identified, and whether it is an artifact of the measurement process. In other words, false positives can be caused by the instrumentation or the test procedures used, when in fact these compounds are not present in the sample.

There are several methods to treat data from such measurements:
1. Exclude the low-level data because of this uncertainty factor. However, studies of long-term environmental trends and modelling may be adversely affected by exclusion of such data.
2. Qualify these data so the user is aware of the greater uncertainty associated with their use.

For the Drinking Water Surveillance Program, measurements near the limit of detection of the measurement process are reported qualified by the code "<T". Results quantified by "W" indicate a zero measurement. These results are reported for purposes of modelling and long-term trend analysis and no significance should be attributed to a single determination of a substance below "T" (a single determination may well be a false positive). Repeat analysis or additional data are needed before it can be stated with certainty that the substance in question was truly present. On the other hand, it is less likely that repeated detection of a substance at or near the limit of detection at a specific location is solely due to an artifact in the measurement system, and more likely represents a true positive. However the average of such data is still only an estimate of the amount of substance present subject to the possible biases of the method used.

LABORATORY RESULTS, REMARK DESCRIPTIONS

.	No Sample Taken
BDL	Below Minimum Measurable Amount
<T	Greater Than Detection Limit But Not Confident (SEE INTERPRETATION OF RESULTS ABOVE)
>	Results Are Greater Than The Upper Limit
<=>	Approximate Result
!AW	No Data: Analysis Withdrawn
!CR	No Data: Could Not Confirm By Reanalysis
!CS	No Data: Contamination Suspected
!IL	No Data: Sample Incorrectly Labelled
!IS	No Data: Insufficient Sample
!LA	No Data: Laboratory Accident

!LD	No Data: Test Queued After Sample Discarded
!NA	No Data: No Authorization To Perform Reanalysis
!NP	No Data: No Procedure
!NR	No Data: Sample Not Received
!OP	No Data: Obscured Plate
!QU	No Data: Quality Control Unacceptable
!PE	No Data: Procedural Error - Sample Discarded
!PH	No Data: Sample pH Outside Valid Range
!RE	No Data: Received Empty
!RO	No Data: See Attached Report (no numeric results)
!SM	No Data: Sample Missing
!SS	No Data: Send Separate Sample Properly Preserved
!UI	No Data: Indeterminant Interference
!TX	No Data: Time Expired
A3C	Approximate, Total Count Exceeded 300 Colonies
APL	Additional Peak, Large, Not Priority Pollutant
APS	Additional Peak, Less Than, Not Priority Pollutant
CIC	Possible Contamination, Improper Cap
CRO	Calculated Result Only
PPS	Test Performed On Preserved Sample
RMP	P and M-Xylene Not Separated
RRV	Rerun Verification
RVU	Reported Value Unusual
SPS	Several Peaks, Small, Not Priority Pollutant
UAL	Unreliable: Sample Age Exceeds Normal Limit
UCR	Unreliable: Could Not Confirm By Reanalysis
UCS	Unreliable: Contamination Suspected
UIN	Unreliable: Indeterminant Interference
XP	Positive After X Number of Hours
T# (T06)	Result Taken After # Hours

TABLE 5

DRINKING WATER SURVEILLANCE PROGRAM 1988

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
BACTERIOLOGICAL								
AEROMONAS SP (0=ABSENT)			DET'N LIMIT = N/A		GUIDELINE = 0 (A1)			
JAN	.	.	.	.	.	.	.	0
FEB	.	.	.	.	.	.	.	0
AUG	.	.	.	.	.	.	.	1
E. COLI P/A (0=ABSENT)			DET'N LIMIT = N/A		GUIDELINE = N/A			
JAN	.	.	.	.	.	.	.	0
FEB	.	.	.	.	.	.	.	0
AUG	.	.	.	.	.	.	.	0
FECAL COLIFORM MF (CT/100ML)			DET'N LIMIT = 0		GUIDELINE = 0 (A1)			
JAN	0	.	.	.	.	.	.	.
FEB	4	.	.	.	.	.	.	.
MAR	0	.	.	.	.	.	.	.
MAY	28	.	.	.	.	.	.	.
JUN	26	.	.	.	.	.	.	.
JUL	22	.	.	.	.	.	.	.
AUG	18	.	.	.	.	.	.	.
SEP	4 T48	.	.	.	.	.	.	.
	0	.	.	.	.	.	.	.
OCT	7 T48	.	.	.	.	.	.	.
NOV	14 T48	.	.	.	.	.	.	.
DEC	8	.	.	.	.	.	.	.

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE TYPE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
FECAL COLIFORM (0=ABSENT)			DET'N LIMIT = N/A		GUIDELINE = 0 (A1)			
JAN	.	.	.	.	.	.	.	0
FEB	.	.	.	.	.	.	.	0
AUG	.	.	.	.	.	.	.	0
STANDRD PLATE CNT MF (CT/ML)			DET'N LIMIT = 0		GUIDELINE = 500/ML (A1)			
JAN	67	3	.	12	.	.	.	59
FEB	190	3	.	18	.	.	.	170
MAR	86	6	.	13	.	.	.	21
APR	.	0	.	11	.	.	.	52
MAY	260	1	.	55	.	.	.	140
JUN	480	.	.	260	.	.	.	78
JUL	24000	7	.	2400 >	.	.	.	2000
AUG	2400 >	320	.	1100	.	.	.	1800
SEP	.	630 T48	.	.	.	.	.	.
	.	0	.	.	.	24000 >	.	2400 >
OCT	.	3 <=>	.	.	.	420 T24	.	3 <=>
NOV	.	7 <=>	.	39 T48	.	.	.	17 T48
DEC	.	3 <=>	.	.	.	16 T48	.	.
P/A BOTTLE (0=ABSENT)			DET'N LIMIT = 0		GUIDELINE = 0 (A1*)			
JAN	.	0	.	0	.	.	.	1
FEB	.	0	.	0	.	.	.	1
MAR	.	0	.	0	.	.	.	0
APR	.	0	.	0	.	.	.	0
MAY	.	0	.	0	.	.	.	0
JUN	.	.	.	0	.	.	.	0
JUL	.	0	.	0	.	.	.	0
AUG	.	0	.	0	.	.	.	1

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE TYPE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
STAPH AUREUS (0=ABSENT)			DET'N LIMIT = N/A		GUIDELINE = 0 (A1)			
JAN	.	.	.	.	.	.	.	0
FEB	.	.	.	.	.	.	.	0
AUG	.	.	.	.	.	.	.	0
COLIFORM (0=ABSENT)			DET'N LIMIT = N/A		GUIDELINE = 0 (A1)			
JAN	.	.	.	.	.	.	.	1
FEB	.	.	.	.	.	.	.	1
AUG	.	.	.	.	.	.	.	0
TOTAL COLIFORM MF (CT/100ML)			DET'N LIMIT = 0		GUIDELINE = 5/100ML(A1)			
JAN	7	0	.	0	.	.	.	150 >
FEB	90 A3C	0	.	0	.	.	.	11 A3C
MAR	148	0	.	0	.	.	.	0
APR	.	0	.	0	.	.	.	0
MAY	80	0	.	0	.	.	.	0
JUN	56 A3C	.	.	0	.	.	.	0
JUL	30 A3C	0	.	1	.	.	.	1 A3C
AUG	8500	0	.	0	.	.	.	0
SEP	44 A3C	0 T48	.	.	.	.	.	.
	0	0	.	.	.	IOP	.	0
OCT	68 A3C	0 T48	.	.	.	0 A3C	.	0 T24
NOV	128 A3C	0 T48	.	0 T48	.	.	.	0 T48
DEC	400 A3C	0	.	.	.	0 T48	.	.
T COLIFORM BCKGRD MF (CT/100ML)			DET'N LIMIT = 0		GUIDELINE = N/A			
JAN	19	0	.	0	.	.	.	2400 >
FEB	640	0	.	0	.	.	.	900
MAR	58	0	.	0	.	.	.	0

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
	SITE		SITE 1		SITE 2		SITE 3	
	TYPE RAW	TREATED	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
APR	.	0	.	0	.	.	.	0
MAY	256	0	.	0	.	.	.	0
JUN	540	.	.	0	.	.	.	0
JUL	1600	0	.	4	.	.	.	1600
AUG	40000 >	23	.	1	.	.	.	2400 >
SEP	4800 >	0 T48	.	.	.	.	.	.
	0	0	.	.	.	2400 >	.	13
OCT	4800 >	0 T48	.	.	.	2150 A3C	.	0 T24
NOV	1460 A3C	0 T48	.	124 T48	.	.	.	0 T48
DEC	10000	0	.	.	.	168 T48	.	.

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE TYPE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
CHEMISTRY (FLD)								
FLD CHLORINE (COMB) (MG/L)			DET'N LIMIT = N/A		GUIDELINE = N/A			
JAN	.	.100	.100	.100	.	.	.	.
FEB	.	.200	.	.200	.	.	.	.
MAR	.	.100	.100	.200	.	.	.	.
APR	.	.200	.	.200	.	.	.	.
MAY	.	.200	.200	.100	.	.	.	.
JUN	.	.	.200	.100	.	.	.	.
JUL	.	.400	.	.	.	.	.	.
AUG	.	.600	.	.100	.	.	.	.
SEP	.	.200	.	.	.	.	.	.
	.	.200	.	.	.	.	.	.
OCT	.	.300	.	.	.	.	.	.200
NOV	.	.100	.	.100	.	.100	.	.200
DEC	.	.400	.	.	.	.	.	.200
						.200	.	.
FLD CHLORINE FREE (MG/L)			DET'N LIMIT = N/A		GUIDELINE = N/A			
JAN	.	.400	.	.	.	.	.010	.100
FEB	.	.500	.	.100	.	.	.100	.100
MAR	.	.400	.	.300	.	.	.100	.100
APR	.	.300	.	.	.	.	.100	.100
MAY	.	.500	.	.200	.	.	.100	.100
JUN	.	.	.	.200	.	.	.100	.100
JUL	.	.900	.	.	.	.	.100	.100
AUG	.	.500	.	.200	.	.	.100	.100
SEP	.	.700	.	.	.	.	.	.
	.	.900	.	.	.	.	.100	.100
OCT	.	.600	.	.	.	.	.100	.100
NOV	.	.400	.	.	.	.	.100	.100
DEC	.	.300	.	.	.	.	.	.

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE TYPE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
FLD CHLORINE (TOTAL) (MG/L)			DET'N LIMIT = N/A		GUIDELINE = N/A			
JAN	.	.500	.100	.100	.	.	.010	.100
FEB	.	.700	.	.300	.	.	.100	.100
MAR	.	.500	.100	.500	.	.	.100	.100
APR	.	.500	.	.200	.	.	.100	.100
MAY	.	.700	.200	.300	.	.	.100	.100
JUN	.	.	.200	.300	.	.	.100	.100
JUL	.	1.300	.	.	.	.	.100	.100
AUG	.	1.100	.	.300	.	.	.100	.100
SEP	.	.900	.	.	.	.	.	.
	.	1.100	.	.	.	.	.100	.300
OCT	.	.900	.	.	.	.100	.100	.300
NOV	.	.500	.	.100	.	.	.100	.300
DEC	.	.700	.	.	.	.200	.	.
FLD PH (DIMENSIONLESS)			DET'N LIMIT = N/A		GUIDELINE = 6.5-8.5(A4)			
JAN	7.600	7.400	7.600	7.600	.	.	7.600	7.400
FEB	7.600	7.600	7.600	7.600	.	.	7.600	7.400
MAR	7.600	7.600	7.400	7.500	.	.	7.400	7.500
APR	.	7.400	7.500	7.200	.	.	6.800	7.000
MAY	7.800	7.400	7.400	7.400	.	.	7.500	7.300
JUN	7.900	.	7.600	.	.	.	7.400	7.500
JUL	7.800	7.600	7.600	7.600	.	.	6.800	6.800
AUG	8.000	7.600	7.600	7.600	.	.	7.400	7.600
SEP	7.800	7.400	.	.	.	.	.	.
	8.000	7.400	.	.	7.400	7.400	7.500	7.400
OCT	7.900	7.400	.	.	7.400	7.400	7.600	7.400
NOV	7.900	7.600	7.600	7.600	.	.	7.600	7.400
DEC	7.800	7.600	.	.	7.600	7.600	.	.
FLD TEMPERATURE (DEG.C)			DET'N LIMIT = N/A		GUIDELINE = 15 (A1)			

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE TYPE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
JAN	1.400	1.500	18.000	3.200	.	.	15.000	10.000
FEB	2.500	1.000	17.500	2.800	.	.	14.000	7.000
MAR	1.400	1.600	15.500	2.500	.	.	13.000	10.000
APR	.	6.000	18.000	7.000	.	.	15.000	12.000
MAY	10.200	10.500	18.000	11.200	.	.	18.000	19.000
JUN	17.200	.	25.500	17.000	.	.	19.000	16.000
JUL	21.500	21.800	27.000	21.500	.	.	20.000	16.000
AUG	25.500	26.000	23.000	25.000	.	.	20.000	18.000
SEP	17.500	18.000	.	.	.	.	.	.
	19.500	19.600	.	.	21.800	19.400	21.000	18.000
OCT	13.000	13.500	.	.	19.200	15.000	18.500	17.000
NOV	7.000	7.200	17.000	10.300	.	.	16.000	13.000
DEC	5.000	3.000	.	.	15.000	7.700	.	.
FLD TURBIDITY (FTU)			DET'N LIMIT = N/A		GUIDELINE = 1.0 (A1)			
JAN	10.000	.580	.460	.560	.	.	.520	.540
FEB	10.000	.380	.400	.360	.	.	.360	.400
MAR	10.000	.460	.470	.550	.	.	.520	.550
MAY	1.500	.150	.230	.200	.	.	.150	.340
JUN	1.250	.	.490	.610	.	.	.440	.540
JUL	1.300	.650	.530	.940	.	.	.730	.660
AUG	1.350	.380	.620	.500	.	.	.520	.700
SEP	1.000	.140	.	.	.	.	.	.
	1.120	.130	.	.	.650	.450	.320	.250
OCT	.750	.150	.	.	.450	.370	.390	.280
NOV	.800	.600	.630	.800	.	.	.570	.710
DEC	.750	.430	.	.	.680	.560	.	.

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE			SITE 1		SITE 2		SITE 3	
TYPE	RAW	TREATED	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
CHEMISTRY (LAB)								
ALKALINITY (MG/L)			DET'N LIMIT = .200		GUIDELINE = 30-500 (A4)			
JAN	98.700	95.300	96.000	96.000	.	.	96.400	96.400
FEB	99.700	97.800	98.800	97.500	.	.	97.900	97.700
MAR	102.100	98.300	98.200	98.300	.	.	98.800	98.600
APR	.	94.000	94.000	93.600	.	.	93.400	92.600
MAY	103.000	94.600	95.800	95.300	.	.	94.900	94.100
JUN	102.100	.	100.700	97.800	.	.	97.700	98.600
JUL	99.200	94.500	96.000	95.600	.	.	96.500	96.300
AUG	86.600	85.300	86.800	85.700	.	.	87.200	86.800
SEP	93.400	86.900	.	.	.	.	.	.
	92.800	83.800	.	.	85.500	85.200	86.200	85.400
OCT	98.000	89.900	.	.	90.400	90.400	89.700	90.200
NOV	98.200	94.700	94.300	94.300	.	.	95.000	94.400
DEC	100.700	97.200	.	.	97.500	97.400	.	.
CALCIUM (MG/L)			DET'N LIMIT = .100		GUIDELINE = 100 (F2)			
JAN	41.200	41.200	40.600	40.800	.	.	40.800	41.800
FEB	40.200	40.600	40.600	40.000	.	.	40.800	40.400
MAR	38.400	39.200	40.200	39.200	.	.	39.800	39.600
APR	.	40.000	40.400	39.800	.	.	39.600	39.400
MAY	40.600	40.400	42.400	41.200	.	.	41.600	41.000
JUN	37.800	.	39.400	39.600	.	.	38.800	38.000
JUL	38.200	39.400	39.800	39.600	.	.	40.600	39.600
AUG	37.400	36.800	37.000	37.000	.	.	38.800	38.000
SEP	36.800	36.600	.	.	.	.	.	.
	36.600	37.000	.	.	37.200	37.200	37.200	37.200
OCT	37.800	37.600	.	.	38.200	37.200	36.600	37.200
NOV	38.000	40.600	41.600	39.000	.	.	40.000	40.000
DEC	41.000	40.600	.	.	40.600	41.000	.	.

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE TYPE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
CHLORIDE (MG/L)			DET'N LIMIT = .200		GUIDELINE = 250 (A3)			
JAN	23.000	23.700	23.800	23.700	.	.	24.200	23.900
FEB	23.100	23.500	23.600	23.400	.	.	23.500	23.500
MAR	22.500	23.400	23.400	23.300	.	.	23.300	23.400
APR	.	23.000	22.200	22.800	.	.	23.100	22.100
MAY	22.400	23.300	23.200	23.400	.	.	23.200	23.400
JUN	20.800	.	22.800	22.700	.	.	23.600	22.800
JUL	22.100	23.200	23.900	23.600	.	.	23.200	23.800
AUG	22.400	23.900	24.100	23.800	.	.	24.100	23.700
SEP	22.300	23.600	.	.	.	.	.	.
	22.500	24.000	.	.	24.500	23.800	23.900	23.600
OCT	22.000	23.400	.	.	23.300	23.000	23.600	23.200
NOV	22.000	22.900	23.300	22.900	.	.	23.200	23.000
DEC	22.500	23.400	.	.	23.300	23.200	.	.
COLOUR (TCU)			DET'N LIMIT = .5		GUIDELINE = 5.0 (A3)			
JAN	2.500	1.000 <T	2.000 <T	1.500 <T	.	.	2.000 <T	2.000 <T
FEB	2.000 <T	1.000 <T	2.000 <T	1.500 <T	.	.	2.000 <T	2.000 <T
MAR	2.500	1.000 <T	2.000 <T	1.500 <T	.	.	2.000 <T	2.000 <T
APR	.	.500 <T	1.500 <T	1.000 <T	.	.	1.000 <T	1.500 <T
MAY	3.500	1.000 <T	3.500	1.500 <T	.	.	.500 <T	2.000 <T
JUN	3.000	.	3.000	2.000 <T	.	.	1.500 <T	2.000 <T
JUL	3.000	1.500 <T	2.500	4.500	.	.	2.000 <T	2.000 <T
AUG	2.000 <T	1.000 <T	1.500 <T	1.500 <T	.	.	1.500 <T	1.500 <T
SEP	2.000 <T	BDL	.	.	.	.	.	.
	1.500 <T	BDL	.	.	2.500	3.000	1.500 <T	1.000 <T
OCT	2.500	1.500 <T	.	.	2.500	3.000	2.000 <T	2.000 <T
NOV	2.500	1.500 <T	2.500	2.500	.	.	2.000 <T	2.500
DEC	2.500	1.000 <T	.	.	2.000 <T	2.000 <T	.	.
CONDUCTIVITY (UMHO/CM)			DET'N LIMIT = 1		GUIDELINE = 400 (F2)			

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE TYPE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
JAN	327	329	334	329	.	.	330	331
FEB	326	329	332	328	.	.	328	330
MAR	321	321	322	322	.	.	322	322
APR	.	320	327	319	.	.	320	319
MAY	322	328	329	329	.	.	326	327
JUN	321	.	325	322	.	.	329	326
JUL	317	320	320	318	.	.	322	322
AUG	568	307	311	307	.	.	310	309
SEP	308	313	.	.	.	.	.	.
	310	314	.	.	319	316	316	315
OCT	315	317	.	.	319	319	318	319
NOV	317	320	327	318	.	.	320	319
DEC	320	321	.	.	324	321	.	.
FLUORIDE (MG/L)			DET'N LIMIT = .01		GUIDELINE = 2.400 (A1)			
JAN	.120	1.080	1.080	1.040	.	.	1.080	1.100
FEB	.140	.640	.600	.620	.	.	.580	.560
MAR	.110	.830	.870	.910	.	.	.840	.850
APR	.	1.010	.980	1.000	.	.	.980	.970
MAY	.120	1.080	1.070	1.060	.	.	1.110	1.070
JUN	.130	.	1.190	1.120	.	.	1.130	1.160
JUL	.120	.980	.930	.910	.	.	.900	.910
AUG	.120	1.090	.950	1.160	.	.	.990	1.020
SEP	.140	1.060	.	.	.	.	.	.
	.120	.980	.	.	.980	.960	.980	.960
OCT	.120	1.120	.	.	1.120	1.120	1.140	1.120
NOV	.120	.940	1.000	.980	.	.	.980	1.000
DEC	.140	.880	.	.	.880	.840	.	.
HARDNESS (MG/L)			DET'N LIMIT = .500		GUIDELINE = 80-100 (A4)			
JAN	138.000	137.000	135.000	138.000	.	.	137.000	139.000

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE TYPE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	135.000	135.000	135.000	132.000	.	.	136.000	135.000
MAR	130.000	132.000	134.000	131.000	.	.	134.000	133.000
APR	.	134.000	134.000	133.000	.	.	133.000	132.000
MAY	134.000	133.000	139.000	135.000	.	.	136.000	134.000
JUN	126.000	.	130.000	132.000	.	.	129.000	127.000
JUL	128.000	133.000	134.000	132.000	.	.	135.000	131.000
AUG	128.000	126.000	127.000	127.000	.	.	132.000	130.000
SEP	127.000	126.000	.	.	.	.	.	.
	127.000	128.000	.	.	128.000	127.000	128.000	126.000
OCT	129.000	126.000	.	.	130.000	126.000	126.000	126.000
NOV	130.000	137.000	138.000	132.000	.	.	134.000	135.000
DEC	137.800	137.200	.	.	137.200	137.200	.	.
IONCAL (DIMENSIONLESS)			DET'N LIMIT = N/A		GUIDELINE = N/A			
JAN	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.	.	.000 NAF	.000 NAF
FEB	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.	.	.000 NAF	.000 NAF
MAR	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.	.	.000 NAF	.000 NAF
APR	.	.000 NAF	.000 NAF	.000 NAF	.	.	.000 NAF	.000 NAF
MAY	.000 NAF	.000 NAF	.000 NAF	.000 NAF	.	.	.000 NAF	.000 NAF
JUN	.000 NAF	.	.000 NAF	.000 NAF	.	.	.000 NAF	.000 NAF
JUL	3.542	2.253	1.325	1.913	.	.	2.473	.654
AUG	5.788	3.647	2.321	3.976	.	.	6.160	5.166
SEP	.365	.450	.	.	.	.	.	.
	.414	1.368	.	.	.210	.063	.270	.082
OCT	3.749	4.032	.	.	2.267	3.609	4.298	4.632
NOV	2.204	3.479	3.281	.344	.	.	1.339	2.447
DEC	1.646	2.647	.	.	2.075	1.807	.	.
LANGELIERS INDEX (DIMENSIONLESS)			DET'N LIMIT = N/A		GUIDELINE = N/A			
JAN	.405 NAF	.280 NAF	.266 NAF	.289 NAF	.	.	.310 NAF	.321 NAF

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE TYPE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	.299 NAF	.225 NAF	.249 NAF	.217 NAF	.	.	.277 NAF	.232 NAF
MAR	.450 NAF	.322 NAF	.353 NAF	.332 NAF	.	.	.351 NAF	.338 NAF
APR	.	.232 NAF	.266 NAF	.258 NAF	.	.	.265 NAF	.209 NAF
MAY	.488 NAF	.158 NAF	.305 NAF	.270 NAF	.	.	.142 NAF	.182 NAF
JUN	.523 NAF	.	.465 NAF	.445 NAF	.	.	.425 NAF	.430 NAF
JUL	.326	.218	.219	.325	.	.	.280	.268
AUG	-.107	.245	.304	.319	.	.	.317	.286
SEP	.364	.210	.	.	.	.	.	.
	.319	.009	.	.	.099	.108	.173	.199
OCT	.466	.176	.	.	.265	.284	.293	.283
NOV	.319	.152	.160	.172	.	.	.217	.174
DEC	.403	.283	.	.	.294	.338	.	.
MAGNESIUM (MG/L)			DET'N LIMIT = .050		GUIDELINE = 30 (F2)			
JAN	8.500	8.300	8.100	8.600	.	.	8.500	8.500
FEB	8.300	8.200	8.200	7.900	.	.	8.300	8.300
MAR	8.300	8.400	8.200	8.200	.	.	8.400	8.300
APR	.	8.300	8.200	8.200	.	.	8.200	8.300
MAY	7.900	7.800	7.900	7.800	.	.	7.800	7.800
JUN	7.700	.	7.800	7.900	.	.	7.700	7.700
JUL	7.900	8.400	8.300	8.200	.	.	8.100	7.800
AUG	8.500	8.400	8.400	8.400	.	.	8.500	8.500
SEP	8.500	8.400	.	.	.	.	.	.
	8.500	8.600	.	.	8.400	8.200	8.500	8.200
OCT	8.300	7.900	.	.	8.200	8.100	8.300	8.100
NOV	8.500	8.700	8.400	8.400	.	.	8.400	8.500
DEC	8.600	8.700	.	.	8.700	8.400	.	.
SODIUM (MG/L)			DET'N LIMIT = .200		GUIDELINE = 200 (C3)			
JAN	12.400	12.400	12.400	12.400	.	.	12.400	12.400

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE TYPE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	12.400	12.200	12.600	12.200	.	.	12.200	12.000
MAR	11.800	12.000	12.000	11.800	.	.	12.000	12.000
APR	.	11.600	11.600	11.400	.	.	11.600	11.600
MAY	11.000	11.200	11.200	11.400	.	.	11.400	11.200
JUN	10.400	.	10.200	10.600	.	.	10.400	10.800
JUL	11.600	12.000	12.200	12.400	.	.	12.400	12.000
AUG	11.800	11.600	11.600	11.800	.	.	11.800	11.600
SEP	11.800	11.800	.	.	.	.	.	.
	11.800	11.800	.	.	11.800	11.800	11.600	11.600
OCT	11.800	11.400	.	.	11.600	11.600	11.800	11.200
NOV	11.000	10.800	11.000	10.200	.	.	10.800	11.000
DEC	11.600	11.400	.	.	11.600	11.200	.	.
AMMONIUM TOTAL (MG/L)			DET'N LIMIT = 0.002		GUIDELINE = .05 (F2)			
JAN	.016	.008 <T	.220	.008 <T	.	.	.006 <T	.002 <T
FEB	.014	.006 <T	.102	.004 <T	.	.	.004 <T	.002 <T
MAR	.040	.020	.072	.012	.	.	.010	.006 <T
APR	.	.006 <T	.402	BDL	.	.	.004 <T	.004 <T
MAY	.034	.020	.020	.020	.	.	.016	.006 <T
JUN	.040	.	.030	.012	.	.	.010	.014
JUL	.016	.006 <T	.002 <T	.016	.	.	BDL	.002 <T
AUG	BDL	BDL	.098	.006 <T	.	.	.016	.024
SEP	.026	.018	.	.	.	.	.	.
	.020	.014	.	.	.020	.010	.012	.012
OCT	.012	.004	.	.	.006	.002	.002	.002
NOV	.010	.006 <T	.408	.016	.	.	.002 <T	.006 <T
DEC	.014	.008 <T	.	.	.030	.014	.	.
NITRITE (MG/L)			DET'N LIMIT = 0.001		GUIDELINE = 1.000 (A1)			
JAN	.002 <T	.001 <T	.002 <T	.001 <T	.	.	.001 <T	.001 <T

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE			SITE 1		SITE 2		SITE 3	
TYPE	RAW	TREATED	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	.002 <T	.001 <T	.001 <T	BDL	.	.	.001 <T	.001 <T
MAR	.021	.013	.012	.007	.	.	.009	.005
APR	.	.001 <T	.002 <T	BDL	.	.	.001 <T	BDL
MAY	.008	.001 <T	.002 <T	.002 <T	.	.	.001 <T	.005
JUN	.005	.	.002 <T	.001 <T	.	.	.002 <T	.001 <T
JUL	.017	.001 <T	.002 <T	.003 <T	.	.	.002 <T	.002 <T
AUG	.010	.007	.006	.002 <T	.	.	.002 <T	.002 <T
SEP	.004 <T	.001 <T	.	.	.	.	.	.
	.006	.002 <T	.	.	.004 <T	.003 <T	.003 <T	.004 <T
OCT	.007	.003	.	.	.004	.002	.003	.004
NOV	.007	.004 <T	.004 <T	.004 <T	.	.	.004 <T	.004 <T
DEC	.003 <T	.005	.	.	.002 <T	.001 <T	.	.
TOTAL NITRATES (MG/L)			DET'N LIMIT = .020		GUIDELINE = 10.000 (A1)			
JAN	.285	.275	.635	.290	.	.	.265	.270
FEB	.340	.340	.515	.345	.	.	.340	.335
MAR	.355	.350	.600	.350	.	.	.345	.360
APR	.	.295	1.020	.270	.	.	.285	.285
MAY	.285	.295	.320	.290	.	.	.285	.285
JUN	.220	.	.300	.215	.	.	.230	.215
JUL	.220	.195	.235	.205	.	.	.195	.195
AUG	.145	.125	.445	.115	.	.	.100	.095 <T
SEP	.125	.130	.	.	.	.	.	.
	.120	.115	.	.	.170	.110	.105	.105
OCT	.140	.140	.	.	.140	.135	.140	.145
NOV	.205	.215	1.040	.225	.	.	.210	.210
DEC	.260	BDL	.	.	.510	.265	.	.
NITROGEN TOT KJELD (MG/L)			DET'N LIMIT = .020		GUIDELINE = N/A			
JAN	.350	.200	.420	.170	.	.	.180	.190

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE TYPE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	.270	.190	.300	.200	.	.	.200	.240
MAR	.170	.170	.240	.190	.	.	.210	.170
APR	.	.190	.750	.220	.	.	.210	.180
MAY	.240	.170	.180	.180	.	.	.170	.180
JUN	.270	.	.270	.230	.	.	.210	.230
JUL	.260	.230	.230	.230	.	.	.240	.240
AUG	.260	.270	.460	.290	.	.	.270	.350
SEP	.190	.150	.	.	.	.	.	.
	.240	.190	.	.	.300	.170	.200	.170
OCT	.190	.140	.	.	.170	.160	.140	.140
NOV	.220	.190	.650	.190	.	.	.180	.190
DEC	.200	.220	.	.	.250	.200	.	.
PH (DIMSNLESS)			DET'N LIMIT = N/A		GUIDELINE = 6.5-8.5(A4)			
JAN	8.240	8.130	8.120	8.140	.	.	8.160	8.160
FEB	8.140	8.070	8.090	8.070	.	.	8.120	8.080
MAR	8.300	8.180	8.200	8.190	.	.	8.200	8.190
APR	.	8.100	8.130	8.130	.	.	8.140	8.090
MAY	8.310	8.020	8.140	8.120	.	.	7.990	8.040
JUN	8.380	.	8.310	8.300	.	.	8.290	8.300
JUL	8.190	8.090	8.080	8.190	.	.	8.130	8.130
AUG	7.850	8.190	8.240	8.260	.	.	8.230	8.210
SEP	8.270	8.150	.	.	.	.	.	.
	8.230	7.960	.	.	8.040	8.050	8.110	8.140
OCT	8.340	8.090	.	.	8.170	8.200	8.220	8.200
NOV	8.190	8.010	8.010	8.050	.	.	8.080	8.040
DEC	8.230	8.130	.	.	8.140	8.180	.	.
PHOSPHORUS FIL REACT (MG/L)			DET'N LIMIT = .0005		GUIDELINE = N/A			
JAN	.001 <T	.002	.	.	.	.	.	.

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE TYPE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	.001 <T	.004	.	.	.	.	.	.
MAR	.002 <T	.005	.	.	.	.	.	.
APR	.	.004	.	.	.	.	.	.
MAY	.002 <T	.005	.	.	.	.	.	.
JUN	.003	.	.	.	.	.	.	.
JUL	.003	.009	.	.	.	.	.	.
AUG	.003	.002	.	.	.	.	.	.
SEP	.003	.002 <T	.	.	.	.	.	.
	.001 <T	.001 <T	.	.	.	.	.	.
OCT	.001	.001	.	.	.	.	.	.
NOV	.001 <T	.002	.	.	.	.	.	.
DEC	.001 <T	.001	.	.	.	.	.	.
PHOSPHORUS TOTAL (MG/L)		DET'N LIMIT = .002		GUIDELINE = .40 (F2)				
JAN	.011	.011	.	.	.	.	.	.
FEB	.007 <T	.011	.	.	.	.	.	.
MAR	.007 <T	.008 <T	.	.	.	.	.	.
APR	.	.005 <T	.	.	.	.	.	.
MAY	.011	.006 <T	.	.	.	.	.	.
JUN	.015	.	.	.	.	.	.	.
JUL	.021	.017	.	.	.	.	.	.
AUG	.009 <T	.009 <T	.	.	.	.	.	.
SEP	.010	.007 <T	.	.	.	.	.	.
	.013	.006 <T	.	.	.	.	.	.
OCT	.008 <T	.004 <T	.	.	.	.	.	.
NOV	.008 <T	.005 <T	.	.	.	.	.	.
DEC	.007 <T	.008 <T	.	.	.	.	.	.
SULPHATE (MG/L)		DET'N LIMIT = .200		GUIDELINE = 500. (A3)				
JUL	26.300	26.500	26.300	25.900	.	.	26.700	26.400

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE TYPE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
AUG	25.800	25.760	25.560	25.970	.	.	25.750	25.850
SEP	26.700	30.400	.	.	.	.	.	.
	26.600	32.000	.	.	31.500	31.900	31.100	31.600
OCT	29.200	32.500	.	.	32.700	32.200	32.800	32.700
NOV	26.110	26.390	26.600	26.190	.	.	26.250	26.290
DEC	25.900	26.470	.	.	25.900	26.270	.	.
TURBIDITY (FTU)			DET'N LIMIT = .02		GUIDELINE = 1.00 (A1)			
JAN	.750 UNH	.400	.500	.440	.	.	.270	.470
FEB	.480	.300	.360	.280	.	.	.290	.230
MAR	.440	.470	.520	.330	.	.	.330	.450
APR	.	.070 <T	.700	.230	.	.	.190	.210
MAY	1.270 UNH	.140	.220	.150	.	.	.210	.240
JUN	1.200	.	.460	.430	.	.	.300	.600
JUL	1.120	.680	.550	.880	.	.	.920	.710
AUG	1.600	.530	.690	.880	.	.	.640	.580
SEP	1.720	.850	.	.	.	.	.	.
	1.310	.320	.	.	1.580	.640	.550	.380
OCT	1.190	.780	.	.	.840	.470	.630	.460
NOV	1.250	.560	.780	.700	.	.	.680	.600
DEC	.780	.820	.	.	.780	.790	.	.

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE			SITE 1		SITE 2		SITE 3	
TYPE	RAW	TREATED	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
METALS								
SILVER (UG/L)			DET'N LIMIT = .020		GUIDELINE = 50. (A1)			
JAN	BDL	BDL	.170 <T	.030 <T	.	.	.020 <T	BDL
FEB	.040 <T	.040 <T	.080 <T	.030 <T	.	.	BDL	.030 <T
MAR	.030 <T	.140 <T	.090 <T	.070 <T	.	.	.040 <T	.030 <T
APR	.	.030 <T	.060 <T	BDL	.	.	.050 <T	.050 <T
MAY	BDL	BDL	.040 <T	.060 <T	.	.	.040 <T	BDL
JUN	BDL	.	.130 <T	BDL	.	.	BDL	BDL
JUL	BDL	BDL	.220 <T	4.400	.	.	.090 <T	.060 <T
AUG	BDL	BDL	.340 <T	BDL	.	.	BDL	BDL
SEP	BDL	BDL	.	.	.	.	.	.
	BDL	BDL	.	.	.100 <T	BDL	BDL	BDL
OCT	BDL	BDL	.	.	BDL	BDL	BDL	.060 <T
NOV	BDL	BDL	.070 <T	BDL	.	.	.040 <T	BDL
DEC	BDL	BDL	.	.	BDL	.350 <T	.	.
ALUMINUM (UG/L)			DET'N LIMIT = .050		GUIDELINE = 100.(A4)			
JAN	8.700	11.000	41.000	14.000	.	.	24.000	17.000
FEB	6.300	9.900	36.000	11.000	.	.	21.000	14.000
MAR	11.000	7.600	31.000	9.500	.	.	14.000	16.000
APR	.	60.000	42.000	42.000	.	.	27.000	30.000
MAY	20.000	84.000	52.000	61.000	.	.	59.000	57.000
JUN	26.000	.	130.000	88.000	.	.	120.000	94.000
JUL	31.000	23.000	93.000	84.000	.	.	81.000	72.000
AUG	28.000	18.000	79.000	69.000	.	.	67.000	66.000
SEP	20.000	180.000	.	.	.	.	.	.
	21.000	150.000	.	.	110.000	88.000	110.000	98.000
OCT	11.000	140.000	.	.	120.000	86.000	88.000	88.000
NOV	25.000	22.000	60.000	39.000	.	.	47.000	39.000
DEC	11.000	12.000	.	.	46.000	25.000	.	.

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE TYPE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
ARSENIC (UG/L)			DET'N LIMIT = 0.050		GUIDELINE = 50.0 (A1)			
JAN	.770 <T	1.200	1.200	1.300	.	.	1.100	1.200
FEB	.630 <T	.910 <T	.850 <T	.820 <T	.	.	.790 <T	.860 <T
MAR	.470 <T	1.200	1.100	1.100	.	.	.690 <T	.800 <T
APR	.	1.000 <T	.990 <T	.900 <T	.	.	1.000 <T	.860 <T
MAY	.780 <T	.960 <T	.940 <T	.840 <T	.	.	.990 <T	.960 <T
JUN	.940 <T	.	.970 <T	1.300	.	.	1.000 <T	1.100
JUL	.910 <T	1.000 <T	1.000 <T	1.100	.	.	1.200	.830 <T
AUG	1.100	1.300	1.100	1.400	.	.	1.000 <T	1.300
SEP	.930 <T	.930 <T	.	.	.	.	.	.
	1.100	1.100	.	.	1.200	.960 <T	1.100	.810 <T
OCT	1.500	1.500	.	.	1.200	.870 <T	1.300	1.000 <T
NOV	.960 <T	1.000 <T	.830 <T	.830 <T	.	.	.770 <T	1.100
DEC	.830 <T	1.200	.	.	1.100	1.200	.	.
BARIUM (UG/L)			DET'N LIMIT = 0.020		GUIDELINE = 1000. (A1)			
JAN	21.000	20.000	23.000	22.000	.	.	22.000	21.000
FEB	21.000	20.000	23.000	21.000	.	.	22.000	20.000
MAR	21.000	21.000	22.000	21.000	.	.	22.000	22.000
APR	.	21.000	23.000	21.000	.	.	22.000	21.000
MAY	24.000	23.000	24.000	24.000	.	.	25.000	23.000
JUN	26.000	.	28.000	26.000	.	.	27.000	26.000
JUL	23.000	23.000	24.000	23.000	.	.	23.000	22.000
AUG	21.000	22.000	23.000	22.000	.	.	21.000	21.000
SEP	23.000	23.000	.	.	.	.	.	.
	23.000	22.000	.	.	24.000	22.000	22.000	23.000
OCT	24.000	24.000	.	.	24.000	23.000	23.000	24.000
NOV	24.000	24.000	25.000	23.000	.	.	24.000	24.000
DEC	24.000	24.000	.	.	25.000	24.000	.	.
BORON (UG/L)			DET'N LIMIT = 0.200		GUIDELINE = 5000. (A1)			

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE								
	RAW	TREATED	SITE 1		SITE 2		SITE 3	
TYPE			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
JAN	24.000	24.000	25.000	26.000	.	.	26.000	27.000
FEB	24.000	23.000	25.000	23.000	.	.	22.000	22.000
MAR	23.000	25.000	25.000	26.000	.	.	26.000	26.000
APR	.	23.000	22.000	22.000	.	.	23.000	25.000
MAY	24.000	30.000	24.000	23.000	.	.	20.000 <T	26.000
JUN	29.000	.	26.000	30.000	.	.	27.000	38.000
JUL	25.000	25.000	25.000	26.000	.	.	28.000	25.000
AUG	45.000	30.000	29.000	49.000	.	.	29.000	37.000
SEP	54.000	38.000	.	.	.	.	.	.
	50.000	55.000	.	.	52.000	46.000	53.000	32.000
OCT	40.000	42.000	.	.	38.000	39.000	40.000	34.000
NOV	69.000	64.000	61.000	47.000	.	.	32.000	65.000
DEC	39.000	61.000	.	.	65.000	63.000	.	.
BERYLLIUM (UG/L)			DET'N LIMIT = 0.010		GUIDELINE = .20 (N)			
JAN	.010 <T	BDL	BDL	BDL	.	.	BDL	BDL
FEB	.020 <T	.030 <T	.020 <T	.030 <T	.	.	.030 <T	.030 <T
MAR	.020 <T	.050 <T	.030 <T	.020 <T	.	.	.010 <T	BDL
APR	.	BDL	BDL	BDL	.	.	BDL	.020 <T
MAY	BDL	BDL	BDL	BDL	.	.	BDL	BDL
JUN	BDL	.	BDL	BDL	.	.	BDL	BDL
JUL	BDL	BDL	BDL	BDL	.	.	.030 <T	.020 <T
AUG	.030 <T	.020 <T	BDL	.030 <T	.	.	BDL	BDL
SEP	BDL	BDL	.	.	.	.	.	.
	.070 <T	.100 <T	.	.	.080 <T	BDL	.020 <T	.030 <T
OCT	.090 <T	.050 <T	.	.	.060 <T	.070 <T	.100 <T	.100 <T
NOV	.150 <T	.070 <T	.050 <T	.050 <T	.	.	.020 <T	.100 <T
DEC	.070 <T	.050 <T	.	.	.060 <T	.080 <T	.	.
CADMIUM (UG/L)			DET'N LIMIT = 0.050		GUIDELINE = 5.000 (A1)			
JAN	BDL	BDL	BDL	BDL	.	.	BDL	BDL

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE TYPE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	BDL	BDL	.050 <T	.050 <T	.	.	.050 <T	BDL
MAR	BDL	.080 <T	.090 <T	.060 <T	.	.	.080 <T	.080 <T
APR	.	BDL	.080 <T	BDL	.	.	BDL	BDL
MAY	BDL	BDL	BDL	BDL	.	.	BDL	BDL
JUN	BDL	.	BDL	BDL	.	.	BDL	BDL
JUL	BDL	BDL	BDL	BDL	.	.	.060 <T	BDL
AUG	BDL	BDL	BDL	BDL	.	.	BDL	BDL
SEP	BDL	BDL	.	.	.	.	.	.
	BDL	BDL	.	.	.950	.110 <T	.080 <T	BDL
OCT	BDL	BDL	.	.	.090 <T	BDL	BDL	BDL
NOV	BDL	BDL	.700	.080 <T	.	.	BDL	BDL
DEC	.070 <T	.080 <T	.	.	.240 <T	.080 <T	.	.
COBALT (UG/L)			DET'N LIMIT = 0.020		GUIDELINE = 1000 (H)			
JAN	.200 <T	.200 <T	.170 <T	.170 <T	.	.	.150 <T	.180 <T
FEB	.040 <T	BDL	.070 <T	.040 <T	.	.	.030 <T	BDL
MAR	.120 <T	.100 <T	.070 <T	.110 <T	.	.	.140 <T	.090 <T
APR	.	.050 <T	.120 <T	.080 <T	.	.	.110 <T	.080 <T
MAY	.140 <T	.070 <T	.120 <T	.090 <T	.	.	.130 <T	.110 <T
JUN	.080 <T	.	.050 <T	.030 <T	.	.	.110 <T	.070 <T
JUL	.080 <T	BDL	BDL	BDL	.	.	.060 <T	BDL
AUG	.090 <T	.070 <T	.070 <T	.040 <T	.	.	.070 <T	.080 <T
SEP	.060 <T	.050 <T	.	.	.	.	.	.
	.160 <T	.160 <T	.	.	.210 <T	.120 <T	.170 <T	.160 <T
OCT	.220 <T	.190 <T	.	.	.070 <T	.050 <T	.200 <T	.100 <T
NOV	.140 <T	.120 <T	.170 <T	.140 <T	.	.	.140 <T	.090 <T
DEC	.140 <T	.160 <T	.	.	.150 <T	.130 <T	.	.
CHROMIUM (UG/L)			DET'N LIMIT = 0.100		GUIDELINE = 50. (A1)			
JAN	.400 <T	.490 <T	.970 <T	.420 <T	.	.	.470 <T	.450 <T

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE TYPE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	.400 <T	.430 <T	3.300	.450 <T	.	.	.470 <T	.480 <T
MAR	.660 <T	.700 <T	.790 <T	.520 <T	.	.	.620 <T	.630 <T
APR	.	.490 <T	10.000	.500 <T	.	.	.440 <T	.760 <T
MAY	1.100	2.100	40.000	.560 <T	.	.	.420 <T	1.400
JUN	.860 <T	.	13.000	.760 <T	.	.	.530 <T	1.900
JUL	.240 <T	.250 <T	.280 <T	.160 <T	.	.	.240 <T	.280 <T
AUG	3.000	.790 <T	1.100	3.100	.	.	.940 <T	1.600
SEP	3.600	2.000	.	.	.	.	.	.
	3.300	3.900	.	.	5.600	3.000	4.000	1.400
OCT	5.700	6.000	.	.	4.800	4.800	4.800	4.100
NOV	6.000	5.500	5.200	3.100	.	.	1.300	5.500
DEC	1.900	4.300	.	.	4.800	4.500	.	.
COPPER (UG/L)			DET'N LIMIT = .100		GUIDELINE = 1000 (A3)			
JAN	.950 <T	1.300	61.000	4.000	.	.	77.000	13.000
FEB	.870 <T	.960 <T	52.000	3.200	.	.	68.000	9.500
MAR	.740 <T	.880 <T	54.000	3.000	.	.	55.000	25.000
APR	.	.930 <T	98.000	4.800	.	.	120.000	47.000
MAY	1.400	1.100	84.000	5.700	.	.	100.000	29.000
JUN	2.100	.	44.000	4.200	.	.	46.000	5.700
JUL	1.200	1.200	45.000	7.000	.	.	63.000	13.000
AUG	1.100	1.500	50.000	10.000	.	.	39.000	5.900
SEP	1.200	1.000 <T	.	.	.	.	.	.
	1.100	1.100	.	.	59.000	5.600	74.000	8.500
OCT	1.100	1.000 <T	.	.	58.000	4.400	68.000	11.000
NOV	1.100	1.200	50.000	3.200	.	.	60.000	5.600
DEC	.960 <T	1.100	.	.	55.000	3.500	.	.
IRON (UG/L)			DET'N LIMIT = 4.000		GUIDELINE = 300. (A3)			
JAN	15.000 <T	19.000 <T	54.000	35.000 <T	.	.	35.000 <T	46.000

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
TYPE			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	9.400 <T	8.300 <T	39.000 <T	29.000 <T	.	.	33.000 <T	39.000 <T
MAR	16.000 <T	12.000 <T	50.000	35.000 <T	.	.	47.000	62.000
APR	.	7.900 <T	43.000	42.000	.	.	29.000 <T	40.000 <T
MAY	35.000 <T	BDL	41.000 <T	47.000 <T	.	.	45.000 <T	56.000
JUN	48.000 <T	.	30.000 <T	29.000 <T	.	.	43.000 <T	43.000 <T
JUL	49.000 <T	19.000 <T	48.000 <T	160.000	.	.	49.000 <T	42.000 <T
AUG	46.000 <T	12.000 <T	41.000 <T	42.000 <T	.	.	53.000	41.000 <T
SEP	35.000 <T	6.200 <T	.	.	.	.	.	.
	33.000 <T	BDL	.	.	160.000	160.000	58.000	48.000 <T
OCT	18.000 <T	BDL	.	.	90.000	100.000	41.000 <T	35.000 <T
NOV	31.000 <T	17.000 <T	66.000	71.400	.	.	44.000 <T	53.000
DEC	9.600 <T	6.300 <T	.	.	68.000	55.000	.	.
MERCURY (UG/L)		DET'N LIMIT = 0.010		GUIDELINE = 1.000 (A1)				
JAN	.010	.010	.	BDL	.	.	.	.010
FEB	.010	BDL	.	BDL	.	.	.	.010
MAR	.010	.010	.	.010	.	.	.	.010
APR	.	.010	.	.010	.	.	.	.020
MAY	BDL	BDL	.	BDL	.	.	.	.030 <T
JUN	BDL	.	.	BDL	.	.	.	.050 <T
JUL	BDL	.020 <T	.	BDL	.	.	.	.080
AUG	BDL	BDL	.	BDL	.	.	.	.050 <T
SEP	BDL	.030 <T	.	.	.	.	.	.
	.020 <T	BDL	.	.	.	.020 <T	.	BDL
OCT	.020 <T	BDL	.	.	.	.020 <T	.	.050 <T
NOV	BDL	BDL	.	BDL	.	.	.	BDL
DEC	BDL	BDL	.	.	.	BDL	.	.
MANGANESE (UG/L)		DET'N LIMIT = .050		GUIDELINE = 50.0 (A3)				
JAN	1.400	1.300	3.400	2.900	.	.	1.800	2.300

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE TYPE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	1.300	1.100	3.100	2.200	.	.	1.700	1.800
MAR	1.800	1.200	3.200	2.400	.	.	2.300	2.400
APR	.	.450 <T	4.300	3.100	.	.	1.800	1.700
MAY	4.000	.930	5.300	4.300	.	.	2.700	2.500
JUN	6.500	.	5.200	4.800	.	.	2.900	3.400
JUL	5.400	2.400	6.400	16.000	.	.	4.400	4.000
AUG	4.500	1.500	5.300	5.000	.	.	3.100	2.800
SEP	3.700	.420 <T	.	.	.	.	.	.
	3.300	.500 <T	.	.	5.500	5.900	2.600	2.100
OCT	2.100	.390 <T	.	.	3.600	3.900	2.200	1.900
NOV	2.500	1.100	4.500	3.900	.	.	2.900	2.900
DEC	1.400	1.000	.	.	3.500	5.200	.	.
MOLYBDENUM (UG/L)			DET'N LIMIT = 0.020		GUIDELINE = 500 (N)			
JAN	1.100	1.100	1.000	1.100	.	.	1.100	1.100
FEB	1.100	1.200	1.100	1.100	.	.	1.100	1.000
MAR	1.100	1.100	1.100	1.200	.	.	1.100	1.100
APR	.	1.000	1.100	1.100	.	.	1.200	1.200
MAY	1.100	1.200	1.100	1.100	.	.	1.200	1.200
JUN	1.100	.	1.000	1.100	.	.	1.200	1.200
JUL	1.100	1.200	1.100	1.100	.	.	1.100	1.100
AUG	1.100	1.100	1.100	1.200	.	.	1.000	.990
SEP	1.100	1.200	.	.	.	.	.	.
	1.100	1.200	.	.	1.100	1.200	1.300	1.200
OCT	1.300	1.200	.	.	1.300	1.300	1.200	1.300
NOV	1.100	1.200	1.100	1.070	.	.	1.100	1.300
DEC	1.300	1.300	.	.	1.300	1.200	.	.
NICKEL (UG/L)			DET'N LIMIT = 0.100		GUIDELINE = 50. (F3)			
JAN	2.000	2.400	2.800	2.300	.	.	3.200	2.300

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE TYPE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	.340 <T	.490 <T	1.100 <T	.500 <T	.	.	2.900	.910 <T
MAR	.910 <T	.760 <T	1.600	1.000 <T	.	.	1.600	1.500
APR	.	1.400 <T	2.300	1.900	.	.	2.500	1.600
MAY	1.200 <T	.870 <T	2.600	1.100 <T	.	.	2.900	1.500 <T
JUN	.220 <T	.	.750 <T	.190 <T	.	.	5.100	.250 <T
JUL	.300 <T	.570 <T	1.800 <T	.470 <T	.	.	1.900 <T	.580 <T
AUG	.490 <T	.210 <T	1.400 <T	.200 <T	.	.	1.300 <T	.490 <T
SEP	.740 <T	.620 <T	.	.	.	.	.	.
	.370 <T	BDL	.	.	1.700 <T	.240 <T	1.900 <T	BDL
OCT	1.300 <T	.680 <T	.	.	1.300 <T	.260 <T	1.800 <T	.600 <T
NOV	.800 <T	.580 <T	1.600 <T	.730 <T	.	.	4.100	.280 <T
DEC	1.400 <T	1.200 <T	.	.	1.900 <T	1.300 <T	.	.
LEAD (UG/L)			DET'N LIMIT = 0.050		GUIDELINE = 50. (A1)			
JAN	.080 <T	.270	5.300	.420	.	.	1.200	.280
FEB	.040 <T	.020 <T	4.500	.320	.	.	1.100	.190 <T
MAR	.070 <T	.360	4.600	.300	.	.	.950	.340
APR	.	BDL	6.400	.330	.	.	1.300	.380
MAY	.170 <T	.100 <T	3.400	.380	.	.	3.500	1.300
JUN	.370	.	5.000	.570	.	.	1.700	.430
JUL	.180 <T	.240	4.900	.900	.	.	3.300	.680
AUG	.230	.160 <T	7.300	1.700	.	.	1.500	.380
SEP	.150 <T	.080 <T	.	.	.	.	.	.
	.200 <T	.040 <T	.	.	34.000	2.400	2.700	.390
OCT	.100 <T	BDL	.	.	8.300	.690	2.400	.410
NOV	.150 <T	.110 <T	9.500	.560	.	.	2.400	.280
DEC	.080 <T	.060 <T	.	.	6.400	.470	.	.
ANTIMONY (UG/L)			DET'N LIMIT = .050		GUIDELINE = 146. (D4)			
JAN	.240	.220	.220	.220	.	.	.240	.210

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE TYPE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	.270	.240	.270	.210	.	.	.200	.200
MAR	.200	.280	.250	.300	.	.	.200	.190 <T
APR	.	.330	.320	.260	.	.	.320	.330
MAY	.200 <T	.190 <T	.260	.240	.	.	.260	.190 <T
JUN	.250	.	.170 <T	.200 <T	.	.	.280	.220
JUL	.260	.220	.280	.250	.	.	.250	.240
AUG	.560	.520	.590	.600	.	.	.510	.560
SEP	.240	.250	.	.	.	.	.	.
	.620	.680	.	.	.750	.790	.600	.850
OCT	.610	.640	.	.	.280	.200 <T	.220	.270
NOV	.530	.640	.680	.670	.	.	.740	.660
DEC	.440	.390	.	.	.440	.480	.	.
SELENIUM (UG/L)			DET'N LIMIT = 0.200		GUIDELINE = 10. (A1)			
JAN	BDL	.760 <T	.420 <T	.910 <T	.	.	.560 <T	.320 <T
FEB	.670 <T	1.200 <T	.880 <T	.990 <T	.	.	1.100 <T	1.700 <T
MAR	.690 <T	1.400 <T	1.900 <T	1.200 <T	.	.	1.500 <T	2.300 <T
APR	.	.970 <T	1.400 <T	1.200 <T	.	.	.360 <T	1.500 <T
MAY	1.300 <T	2.000 <T	2.800 <T	1.600 <T	.	.	1.800 <T	1.100 <T
JUN	.320 <T	.	1.100 <T	1.900 <T	.	.	2.100 <T	1.700 <T
JUL	1.600 <T	BDL	1.300 <T	.650 <T	.	.	BDL	BDL
AUG	1.300 <T	1.800 <T	2.800 <T	2.000 <T	.	.	3.500 <T	2.400 <T
SEP	BDL	BDL	.	.	.	.	.	.
	1.100 <T	2.200 <T	.	.	1.600 <T	2.500 <T	2.400 <T	2.300 <T
OCT	.390 <T	3.400 <T	.	.	3.100 <T	3.100 <T	2.300 <T	2.100 <T
NOV	4.500 <T	4.100 <T	3.400 <T	4.700 <T	.	.	5.500 <T	5.600 <T
DEC	.360 <T	.400 <T	.	.	2.100 <T	1.300 <T	.	.
STRONTIUM (UG/L)			DET'N LIMIT = .050		GUIDELINE = 2000.(H)			
JAN	190.000	190.000	180.000	190.000	.	.	190.000	180.000

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE TYPE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	180.000	180.000	190.000	180.000	.	.	180.000	180.000
MAR	180.000	180.000	180.000	180.000	.	.	180.000	180.000
APR	.	180.000	200.000	200.000	.	.	190.000	190.000
MAY	190.000	190.000	190.000	190.000	.	.	190.000	190.000
JUN	200.000	.	200.000	200.000	.	.	200.000	200.000
JUL	160.000	160.000	160.000	160.000	.	.	170.000	160.000
AUG	160.000	150.000	150.000	150.000	.	.	150.000	140.000
SEP	190.000	200.000	.	.	.	.	.	.
	180.000	180.000	.	.	190.000	180.000	190.000	190.000
OCT	180.000	190.000	.	.	180.000	180.000	180.000	190.000
NOV	180.000	180.000	180.000	175.000	.	.	180.000	180.000
DEC	190.000	190.000	.	.	190.000	190.000	.	.
TITANIUM (UG/L)			DET'N LIMIT = .050		GUIDELINE = N/A			
JAN	4.200	4.800	4.900	5.000	.	.	4.800	4.700
FEB	4.400	5.100	5.200	5.000	.	.	4.700	4.900
MAR	3.100	3.600	3.700	3.500	.	.	3.400	3.900
APR	.	2.900	3.600	2.900	.	.	3.200	3.000
MAY	4.600	3.500	4.200	3.400	.	.	3.400	3.600
JUN	5.300	.	4.800	4.700	.	.	4.800	4.500
JUL	4.000	3.100	2.500	2.700	.	.	3.600	3.100
AUG	5.700	3.900	4.900	4.200	.	.	4.000	3.700
SEP	6.100	5.200	.	.	.	.	.	.
	4.900	3.800	.	.	4.300	4.500	4.400	4.100
OCT	3.700	3.300	.	.	3.100	2.900	3.100	1.900 <T
NOV	5.500	5.900	5.300	5.300	.	.	5.200	5.600
DEC	3.900	4.000	.	.	4.000	4.200	.	.
THALLIUM (UG/L)			DET'N LIMIT = .010		GUIDELINE = 13. (D4)			
JAN	.020 <T	.020 <T	.010 <T	.020 <T	.	.	.020 <T	BDL

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE TYPE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	.020 <T	.010 <T	.010 <T	BDL	.	.	.010 <T	BDL
MAR	.010 <T	.010 <T	.020 <T	.010 <T	.	.	.010 <T	.020 <T
APR	.	BDL	BDL	BDL	.	.	BDL	BDL
MAY	BDL	BDL	BDL	BDL	.	.	BDL	BDL
JUN	.040 <T	.	.020 <T	BDL	.	.	BDL	.020 <T
JUL	.020 <T	.020 <T	.020 <T	.030 <T	.	.	.040 <T	.020 <T
AUG	BDL	BDL	BDL	BDL	.	.	BDL	BDL
SEP	BDL	BDL	.	.	.	.	.	.
	.030 <T	BDL	.	.	.020 <T	BDL	BDL	BDL
OCT	BDL	BDL	.	.	.020 <T	.020 <T	BDL	.020 <T
NOV	BDL	BDL	BDL	BDL	.	.	BDL	BDL
DEC	BDL	BDL	.	.	BDL	BDL	.	.
URANIUM (UG/L)			DET'N LIMIT = .020		GUIDELINE = 20. (A2)			
JAN	.290	.360	.370	.380	.	.	.370	.360
FEB	.320	.380	.370	.380	.	.	.400	.380
MAR	.300	.360	.370	.380	.	.	.360	.400
APR	.	.300	.280	.280	.	.	.250	.260
MAY	.330	.290	.300	.280	.	.	.280	.280
JUN	.370	.	.510	.460	.	.	.470	.480
JUL	.400	.390	.430	.420	.	.	.400	.420
AUG	.320	.370	.300	.380	.	.	.370	.390
SEP	.400	.360	.	.	.	.	.	.
	.380	.280	.	.	.260	.280	.280	.240
OCT	.390	.330	.	.	.310	.300	.290	.420
NOV	.320	.360	.390	.360	.	.	.360	.430
DEC	.330	.370	.	.	.370	.420	.	.
VANADIUM (UG/L)			DET'N LIMIT = .050		GUIDELINE = 100 (H)			
JAN	.310 <T	.290 <T	.300 <T	.280 <T	.	.	.280 <T	.250 <T

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE TYPE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
FEB	.200 <T	.210 <T	.220 <T	.180 <T	.	.	.190 <T	.150 <T
MAR	.260 <T	.290 <T	.270 <T	.240 <T	.	.	.280 <T	.210 <T
APR	.	.200 <T	.250 <T	.190 <T	.	.	.190 <T	.210 <T
MAY	.280 <T	.500 <T	.390 <T	.370 <T	.	.	.440 <T	.400 <T
JUN	.250 <T	.	.380 <T	.290 <T	.	.	.400 <T	.320 <T
JUL	.450 <T	.450 <T	.490 <T	.450 <T	.	.	.490 <T	.460 <T
AUG	.350 <T	.280 <T	.270 <T	.330 <T	.	.	.320 <T	.350 <T
SEP	.300 <T	.550	.	.	.	.	.	.
	.380 <T	.760	.	.	.510	.510	.610	.560
OCT	.440 <T	.640	.	.	.490 <T	.490 <T	.550	.530
NOV	.400 <T	.350 <T	.330 <T	.330 <T	.	.	.310 <T	.330 <T
DEC	.330 <T	.310 <T	.	.	.340 <T	.290 <T	.	.
ZINC (UG/L)			DET'N LIMIT = .001		GUIDELINE = 5000. (A3)			
JAN	1.000	1.700	38.000	2.900	.	.	7.600	2.200
FEB	.860 <T	.850 <T	29.000	1.900	.	.	15.000	1.700
MAR	.980 <T	1.300	50.000	2.600	.	.	17.000	3.100
APR	.	1.200	66.000	2.700	.	.	29.000	4.700
MAY	2.500	1.600	48.000	3.100	.	.	38.000	9.200
JUN	2.400	.	29.000	2.400	.	.	20.000	2.000
JUL	1.900	1.900	31.000	3.400	.	.	24.000	6.600
AUG	1.200	1.100	60.000	6.900	.	.	7.700	1.900
SEP	1.500	1.600	.	.	.	.	.	.
	1.400	1.300	.	.	84.000	8.700	43.000	2.700
OCT	.920 <T	.860 <T	.	.	86.000	4.400	22.000	3.400
NOV	1.400	1.200	63.000	3.900	.	.	27.000	2.100
DEC	.950 <T	.820 <T	.	.	68.000	3.800	.	.

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE			SITE 1		SITE 2		SITE 3	
TYPE	RAW	TREATED	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
PESTICIDES & PCB								
ALPHA BHC (NG/L)		DET'N LIMIT = 1.000		GUIDELINE = 700 (G)				
JAN	BDL	BDL	.	ILA	.	.	.	3.000 <T
FEB	BDL	BDL	.	BDL	.	.	.	BDL
MAR	2.000 <T	2.000 <T	.	2.000 <T	.	.	.	BDL
APR	.	2.000 <T	.	2.000 <T	.	.	.	BDL
MAY	ILA	2.000 <T	.	3.000 <T	.	.	.	2.000 <T
JUN	BDL	.	.	ILA	.	.	.	BDL
JUL	2.000 <T	2.000 <T	.	BDL	.	.	.	2.000 <T
AUG	BDL	1.000 <T	.	ILA	.	.	.	ILA
SEP	1.000 <T	1.000 <T	.	.	.	.	.	.
	2.000 <T	1.000 <T	.	.	.	1.000 <T	.	1.000 <T
OCT	1.000 <T	2.000 <T	.	.	.	BDL	.	2.000 <T
NOV	BDL	BDL	.	2.000 <T	.	.	.	1.000 <T
DEC	BDL	BDL	.	.	.	BDL	.	.
LINDANE (NG/L)		DET'N LIMIT = 1.000		GUIDELINE = 4000 (A1)				
JAN	BDL	BDL	.	ILA	.	.	.	2.000 <T
FEB	BDL	BDL	.	BDL	.	.	.	BDL
MAR	BDL	BDL	.	1.000 <T	.	.	.	BDL
APR	.	BDL	.	BDL	.	.	.	BDL
MAY	ILA	BDL	.	BDL	.	.	.	BDL
JUN	BDL	.	.	ILA	.	.	.	BDL
JUL	BDL	BDL	.	BDL	.	.	.	BDL
AUG	BDL	BDL	.	ILA	.	.	.	ILA
SEP	BDL	BDL	.	.	.	.	.	.
	BDL	BDL	.	.	.	BDL	.	BDL
OCT	BDL	BDL	.	.	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	.	.	BDL
DEC	BDL	BDL	.	.	.	BDL	.	.

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE TYPE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
PHENOLICS (UG/L)	PHENOLICS		DET'N LIMIT = 0.2		GUIDELINE = 2.00 (A3)			
JAN	.600 <T	.600 <T	.	.	.	.	.	.
FEB	.600 <T	.600 <T	.	.	.	.	.	.
MAR	.200 <T	.200 <T	.	.	.	.	.	.
APR	.	.600 <T	.	.	.	.	.	.
MAY	.600 <T	.200 <T	.	.	.	.	.	.
JUN	1.600	.	.	.	.	.	.	.
JUL	.600 <T	1.000 <T	.	.	.	.	.	.
AUG	.800 <T	1.200	.	.	.	.	.	.
SEP	1.000 <T	.800 <T	.	.	.	.	.	.
	2.000	2.800	.	.	.	.	.	.
OCT	1.000 <T	1.200	.	.	.	.	.	.
NOV	1.400	1.600	.	.	.	.	.	.
DEC	1.000	1.000	.	.	.	.	.	.

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE TYPE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
VOLATILES								
TOLUENE (UG/L)		DET'N LIMIT = .050		GUIDELINE = 24.0 (84)				
JAN	BDL	.050 UCS	.	BDL	.	.	.	BDL
MAR	BDL	BDL	.	BDL	.	.	.	BDL
APR	.	.100 UCS	.	BDL	.	.	.	BDL
MAY	BDL	.050 UCS	.	BDL	.	.	.	.050 UCS
JUN	BDL	.	.	.100 <T	.	.	.	BDL
JUL	BDL	BDL	.	BDL	.	.	.	BDL
AUG	BDL	.400 <T	.	.350 <T	.	.	.	.050 <T
SEP	BDL	.050 <T	.	.	.	.	.	.
	BDL	.050 <T	.	.	.	BDL	.	BDL
OCT	BDL	BDL	.	.	.	.050 <T	.	BDL
NOV	BDL	BDL	.	BDL	.	.	.	BDL
DEC	BDL	.100 <T	.	.	.	BDL	.	.
ETHYLBENZENE (UG/L)		DET'N LIMIT = .050		GUIDELINE = 2.4 (84)				
JAN	BDL	BDL	.	BDL	.	.	.	BDL
MAR	BDL	.050 <T	.	BDL	.	.	.	BDL
APR	.	.100 <T	.	BDL	.	.	.	BDL
MAY	BDL	.100 <T	.	BDL	.	.	.	BDL
JUN	BDL	.	.	.050 <T	.	.	.	.050 <T
JUL	BDL	.050 <T	.	.050 <T	.	.	.	.100 <T
AUG	BDL	.050 <T	.	BDL	.	.	.	BDL
SEP	BDL	BDL	.	.	.	.	.	.
	BDL	.050 <T	.	.	.	BDL	.	BDL
OCT	BDL	.100 <T	.	.	.	BDL	.	BDL
NOV	BDL	.100 <T	.	.050 <T	.	.	.	BDL
DEC	BDL	BDL	.	.	.	BDL	.	.
STYRENE (UG/L)		DET'N LIMIT = .050		GUIDELINE = 46.5 (D2)				
SEP	BDL	BDL	.	.	.	.	.	.

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE			SITE 1		SITE 2		SITE 3	
TYPE	RAW	TREATED	STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
OCT	BDL	.150 <T	.	.	.	.300 <T	.	.050 <T
NOV	.450 <T	.700 UCS	.	BDL	.	.	.	.100 <T
DEC	BDL	BDL	.	.	.	.200 <T	.	.
METHYLENE CHLORIDE (UG/L)		DET'N LIMIT = .500		GUIDELINE = 1750 (D3)				
JAN	BDL	BDL	.	BDL	.	.	.	2.000 UCS
MAR	BDL	BDL	.	BDL	.	.	.	BDL
APR	.	BDL	.	BDL	.	.	.	BDL
MAY	BDL	BDL	.	BDL	.	.	.	BDL
JUN	BDL	.	.	BDL	.	.	.	BDL
JUL	BDL	BDL	.	BDL	.	.	.	BDL
AUG	BDL	BDL	.	BDL	.	.	.	BDL
SEP	BDL	BDL	.	.	.	.	.	.
	BDL	BDL	.	.	.	BDL	.	BDL
OCT	BDL	BDL	.	.	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	.	.	BDL
DEC	BDL	BDL	.	.	.	BDL	.	.
CHLOROFORM (UG/L)		DET'N LIMIT = .100		GUIDELINE = 350 (A1+)				
JAN	BDL	8.400	.	7.800	.	.	.	5.100
MAR	BDL	17.000	.	16.100	.	.	.	12.000
APR	.	9.800	.	11.600	.	.	.	9.000
MAY	BDL	16.000	.	11.800	.	.	.	8.400
JUN	BDL	.	.	16.400	.	.	.	16.800
JUL	BDL	29.500	.	16.300	.	.	.	21.300
AUG	BDL	27.600	.	15.900	.	.	.	21.000
SEP	BDL	18.700	.	.	.	.	.	.
	BDL	19.700	.	.	.	10.000	.	12.400
OCT	.200 <T	16.300	.	.	.	10.500	.	12.700
NOV	BDL	14.800	.	10.600	.	.	.	12.700

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE TYPE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
DEC	BDL	13.700	.	.	.	7.400	.	.
111, TRICHLOROETHANE (UG/L)			DET'N LIMIT = .020		GUIDELINE = 200 (D1)			
JAN	BDL	BDL	.	BDL	.	.	.	.200 <T
MAR	BDL	BDL	.	BDL	.	.	.	.200 <T
APR	.	BDL	.	BDL	.	.	.	BDL
MAY	BDL	BDL	.	BDL	.	.	.	BDL
JUN	BDL	.	.	BDL	.	.	.	BDL
JUL	BDL	BDL	.	BDL	.	.	.	BDL
AUG	BDL	BDL	.	BDL	.	.	.	BDL
SEP	BDL	BDL	.	.	.	.	.	.
	BDL	BDL	.	.	.	BDL	.	BDL
OCT	BDL	BDL	.	.	.	BDL	.	BDL
NOV	BDL	BDL	.	BDL	.	.	.	BDL
DEC	BDL	BDL	.	.	.	BDL	.	.
DICHLOROBROMOMETHANE (UG/L)			DET'N LIMIT = .050		GUIDELINE = 350 (A1+)			
JAN	BDL	8.700	.	7.200	.	.	.	5.550
MAR	BDL	13.100	.	12.000	.	.	.	8.900
APR	.	7.100	.	7.900	.	.	.	6.650
MAY	BDL	11.800	.	9.200	.	.	.	7.000
JUN	BDL	.	.	9.200	.	.	.	9.900
JUL	BDL	17.550	.	10.250	.	.	.	12.200
AUG	BDL	16.700	.	10.200	.	.	.	14.600
SEP	BDL	14.350	.	.	.	.	.	.
	BDL	14.900	.	.	.	8.500	.	11.150
OCT	BDL	12.700	.	.	.	9.050	.	10.950
NOV	BDL	11.050	.	8.450	.	.	.	9.950
DEC	BDL	11.700	.	.	.	6.800	.	.

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE TYPE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
CHLORODIBROMOMETHANE (UG/L)			DET'N LIMIT = .100		GUIDELINE = 350 (A1+)			
JAN	BDL	5.800	.	5.800	.	.	.	4.400
MAR	BDL	6.900	.	6.500	.	.	.	5.500
APR	.	3.900	.	3.700	.	.	.	3.600
MAY	BDL	5.000	.	4.000	.	.	.	3.500
JUN	BDL	.	.	4.100 <T	.	.	.	4.100
JUL	BDL	8.400	.	5.800	.	.	.	5.400
AUG	BDL	12.500	.	6.300	.	.	.	10.400
SEP	BDL	8.500	.	.	.	.	.	.
	BDL	10.200	.	.	.	3.900	.	8.300
OCT	BDL	7.100	.	.	.	5.400	.	7.200
NOV	BDL	5.500	.	4.200	.	.	.	4.100
DEC	BDL	6.100	.	.	.	4.000	.	.
BROMOFORM (UG/L)			DET'N LIMIT = .200		GUIDELINE = 350 (A1+)			
JAN	BDL	.600 <T	.	.400 <T	.	.	.	.400 <T
MAR	BDL	.400 <T	.	.400 <T	.	.	.	.400 <T
APR	.	BDL	.	BDL	.	.	.	BDL
MAY	BDL	.600 <T	.	.400 <T	.	.	.	.400 <T
JUN	BDL	.	.	.400 <T	.	.	.	.400 <T
JUL	BDL	.800 <T	.	.600 <T	.	.	.	.400 <T
AUG	BDL	1.000 <T	.	.600 <T	.	.	.	1.000 <T
SEP	BDL	.600 <T	.	.	.	.	.	.
	BDL	1.000 <T	.	.	.	.800 <T	.	1.000 <T
OCT	BDL	.800 <T	.	.	.	.800 <T	.	.800 <T
NOV	BDL	.600 <T	.	.400 <T	.	.	.	.400 <T
DEC	BDL	.800 <T	.	.	.	.600 <T	.	.
TOTL TRIHALOMETHANES (UG/L)			DET'N LIMIT = .500		GUIDELINE = 350 (A1)			
JAN	BDL	23.500	.	21.200	.	.	.	15.450

	WATER TREATMENT PLANT		DISTRIBUTION SYSTEM					
SITE TYPE	RAW	TREATED	SITE 1		SITE 2		SITE 3	
			STANDING	FREE FLOW	STANDING	FREE FLOW	STANDING	FREE FLOW
MAR	BDL	37.400	.	35.000	.	.	.	26.800
APR	.	20.800	.	23.200	.	.	.	19.250
MAY	BDL	33.300	.	25.400	.	.	.	19.400
JUN	BDL	.	.	30.100	.	.	.	31.200
JUL	BDL	56.250	.	32.950	.	.	.	39.300
AUG	BDL	57.800	.	33.000	.	.	.	47.000
SEP	BDL	42.150	.	.	.	.	.	.
	BDL	45.800	.	.	.	25.200	.	32.850
OCT	BDL	36.900	.	.	.	25.750	.	31.650
NOV	BDL	31.950	.	23.650	.	.	.	27.150
DEC	BDL	32.300	.	.	.	18.800	.	.

Table 6

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
BACTERIOLOGICAL			
STANDARD PLATE COUNT MEMBRANE FILTRATION	CT/ML	0	500/ML(A1)
P/A BOTTLE		0	0 (A1*)
TOTAL COLIFORM MEMBRANE FILTRATION	CT/100ML	0	5/100mL(A1)
TOTAL COLIFORM BACKGROUND MF	CT/100ML	0	N/A
CHLOROAROMATICS			
HEXACHLOROBUTADIENE	NG/L	1.000	450. (D4)
1,2,3-TRICHLOROBENZENE	NG/L	5.000	10000 (I)
1,2,3,4-TETRACHLOROBENZENE	NG/L	1.000	10000 (I)
1,2,3,5-TETRACHLOROBENZENE	NG/L	1.000	10000 (I)
1,2,4-TRICHLOROBENZENE	NG/L	5.000	10000 (I)
1,2,4,5-TETRACHLOROBENZENE	NG/L	1.000	38000 (D4)
1,3,5-TRICHLOROBENZENE	NG/L	5.000	10000 (D4)
HEXACHLOROBENZENE	NG/L	1.0	10. (C1)
HEXACHLOROETHANE	NG/L	1.000	1900. (D4)
OCTACHLOROSTYRENE	NG/L	1.000	N/A
PENTACHLOROBENZENE	NG/L	1.000	74000 (D4)
2,3,6-TRICHLOROTOLUENE	NG/L	5.000	N/A
2,4,5-TRICHLOROTOLUENE	NG/L	5.000	N/A
2,6,A-TRICHLOROTOLUENE	NG/L	5.000	N/A
CHLOROPHENOLS			
2,3,4-TRICHLOROPHENOL	NG/L	50.	N/A
2,3,4,5-TETRACHLOROPHENOL	NG/L	50.	N/A
2,3,5,6-TETRACHLOROPHENOL	NG/L	50.	N/A
2,4,5-TRICHLOROPHENOL	NG/L	50.	2600000 (D4)
2,4,6-TRICHLOROPHENOL	NG/L	50.	5000. (B1)
PENTACHLOROPHENOL	NG/L	50.	60000. (B1)
CHEMISTRY (FLD)			
FIELD COMBINED CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD FREE CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD TOTAL CHLORINE RESIDUAL	MG/L	N/A	N/A
FIELD PH	DIMENSLESS	N/A	6.5-8.5(A4)
FIELD TEMPERATURE	°C	N/A	<15 °C(A1)
FIELD TURBIDITY	FTU	N/A	1.0 (A1)
CHEMISTRY (LAB)			
ALKALINITY	MG/L	.200	30-500(A4)
CALCIUM	MG/L	.100	100. (F2)
CYANIDE	MG/L	.001	.20(A1)
CHLORIDE	MG/L	.200	250. (A3)
COLOUR	TCU	.5	5.0 (A3)
CONDUCTIVITY	UMHO/CM	1.	400. (F2)
FLUORIDE	MG/L	.01	2.4 (A1)
HARDNESS	MG/L	.50	80-100(A4)
MAGNESIUM	MG/L	.05	30. (F2)
SODIUM	MG/L	.20	200. (C3)
AMMONIUM TOTAL	MG/L	.002	.05(F2)
NITRITE	MG/L	.001	1.0 (A1)
TOTAL NITRATES	MG/L	.02	10. (A1)
NITROGEN TOTAL KJELDAHL	MG/L	.02	N/A
PH	DIMENSLESS	N/A	6.5-8.5(A4)
PHOSPHORUS FIL REACT	MG/L	.0005	N/A
PHOSPHORUS TOTAL	MG/L	.002	.40(F2)
TOTAL SOLIDS	MG/L	1.	500. (A3)
TURBIDITY	FTU	.02	1.0 (A1)
METALS			

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE	
BARIUM	UG/L	.020	1000.	(A1)
BORON	UG/L	.200	5000.	(A1)
BERYLLIUM	UG/L	.010	0.20	(H)
CADMIUM	UG/L	.050	5.0	(A1)
COBALT	UG/L	.020	1000.	(H)
CHROMIUM	UG/L	.100	50.	(A1)
COPPER	UG/L	.100	1000.	(A3)
IRON	UG/L	4.0	300.	(A3)
MERCURY	UG/L	.01	1.0	(A1)
MANGANESE	UG/L	.050	50.	(A3)
MOLYBDENUM	UG/L	.020	500.	(H)
NICKEL	UG/L	.100	50.	(P3)
LEAD	UG/L	.050	50.	(A1)
SELENIUM	UG/L	.200	10.	(A1)
SILVER	UG/L	.020	50.	(A1)
STRONTIUM	UG/L	.050	2000.	(H)
THALLIUM	UG/L	.010	13.	(D4)
TITANIUM	UG/L	.050	N/A	
URANIUM	UG/L	.020	20.	(A2)
VANADIUM	UG/L	.050	100.	(H)
ZINC	UG/L	.020	500.	(A3)
PHENOLICS				
PHENOLICS (UNFILTERED REACTIVE)	UG/L	.2	2.0	(A3)
PESTICIDES & PCB				
ALDRIN	NG/L	1.0	700.	(A1)
AMETRINE	NG/L	50.	300000.	(D3)
ATRAZINE	NG/L	50.	60000.	(B3)
ALPHA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	700.	(G)
BETA HEXACHLOROCYCLOHEXANE (BHC)	NG/L	1.0	300.	(G)
GAMMA HEXACHLOROCYCLOHEXANE(LINDANE)	NG/L	1.0	4000.	(A1)
ALPHA CHLORDANE	NG/L	2.0	7000.	(A1)
GAMMA CHLORDANE	NG/L	2.0	7000.	(A1)
BLADEX	NG/L	100.	10000.	(B3)
DIELDRIN	NG/L	2.0	700.	(A1)
METHOXYCHLOR	NG/L	5.0	100000.	(A1)
ENDOSULFAN 1 (THIODAN I)	NG/L	2.0	74000.	(D4)
ENDOSULFAN 2 (THIODAN II)	NG/L	4.0	74000.	(D4)
ENDRIN	NG/L	4.0	200.	(A1)
ENDOSULFAN SULPHATE(THIODAN SULPHATE)	NG/L	4.0	N/A	
HEPTACHLOR EPOXIDE	NG/L	1.0	3000.	(A1)
HEPTACHLOR	NG/L	1.0	3000.	(A1)
METOLACHLOR	NG/L	500.	50000.	(B3)
MIREX	NG/L	5.0	N/A	
OXYCHLORDANE	NG/L	2.0	N/A	
O,P-DDT	NG/L	5.0	30000.	(A1)
PCB	NG/L	20.0	3000.	(A2)
O,P-DDD	NG/L	5.0	N/A	
PPDDE	NG/L	1.0	30000.	(A1)
PPDDT	NG/L	5.0	30000.	(A1)
ATRATONE	NG/L	50.	N/A	
ALACHLOR	NG/L	500.	35000.	(D2)
PROMETONE	NG/L	50.	52500.	(D3)
PROPAZINE	NG/L	50.	16000.	(D2)
PROMETRYNE	NG/L	50.	1000.	(B3)
SENCOR (METRIBUZIN)	NG/L	100.	80000.	(B2)
SIMAZINE	NG/L	50.	10000.	(B3)
POLYAROMATIC HYDROCARBONS				
PHENANTHRENE	NG/L	10.0	N/A	
ANTHRACENE	NG/L	1.0	N/A	
FLUORANTHENE	NG/L	20.0	42000.	(D4)
PYRENE	NG/L	20.0	N/A	
BENZO(A)ANTHRACENE	NG/L	20.0	N/A	
CHRYSENE	NG/L	50.0	N/A	
DIMETHYL BENZO(A)ANTHRACENE	NG/L	5.0	N/A	
BENZO(E)PYRENE	NG/L	50.0	N/A	
BENZO(B)FLUORANTHENE	NG/L	10.0	N/A	
PERYLENE	NG/L	10.0	N/A	
BENZO(K)FLUORANTHENE	NG/L	1.0	N/A	

SCAN/PARAMETER	UNIT	DETECTION LIMIT	GUIDELINE
DIBENZO(A,H)ANTHRACENE	NG/L	10.0	N/A
INDENO(1,2,3-C,D)PYRENE	NG/L	20.0	N/A
BENZO(B)CHRYSENE	NG/L	2.0	N/A
CORONENE	NG/L	10.0	N/A
SPECIFIC PESTICIDES			
TOXAPHENE	NG/L	N/A	5000. (A1)
2,4,5-TRICHLOROBUTYRIC ACID (2,4,5-T)	NG/L	50.	280000. (B1)
2,4-DICHLOROBUTYRIC ACID (2,4-D)	NG/L	100.	100000. (A1)
2,4-DICHLORORPHENOXYBUTYRIC ACID	NG/L	200.	18000. (B3)
2,4-D PROPIONIC ACID	NG/L	100.	N/A
DICAMBA	NG/L	100.	87000. (B3)
PICHLORAM	NG/L	100.	2450000. (D3)
SILVEX (2,4,5-TP)	NG/L	50.	10000. (A1)
DIAZINON	NG/L	20.	14000. (A1)
DICHLOROVOS	NG/L	20.	N/A
DURSBAN	NG/L	20.	N/A
ETHION	NG/L	20.	35000. (G)
GUTHION	NG/L	N/A	N/A
MALATHION	NG/L	20.	160000. (G)
MEVINPHOS	NG/L	20.	N/A
METHYL PARATHION	NG/L	50.	7000. (B3)
METHYLTRITHION	NG/L	20.	N/A
PARATHION	NG/L	20.	35000. (B1)
PHORATE (THIMET)	NG/L	20.	35. (D2)
RELDAN	NG/L	20.	N/A
RONNEL	NG/L	20.	N/A
AMINOCARB	NG/L	N/A	N/A
BENOMYL	NG/L	N/A	N/A
BUX (METALKAMATE)	NG/L	2000.	N/A
CARBOFURAN	NG/L	2000.	18000. (D3)
CICP (CHLORPROPHAM)	NG/L	2000.	350000. (G)
DIALLATE	NG/L	2000.	30000. (H)
EPTAM	NG/L	2000.	N/A
IPC	NG/L	2000.	N/A
PROPOXUR (BAYGON)	NG/L	2000.	90000. (G)
SEVIN (CARBARYL)	NG/L	200.	70000. (A1)
SUTAN (BUTYLATE)	NG/L	2000.	245000. (D3)
VOLATILES			
BENZENE	UG/L	.050	5.0 (B1)
TOLUENE	UG/L	.050	24.0 (B4)
ETHYLBENZENE	UG/L	.050	2.4 (B4)
PARA-XYLENE	UG/L	.100	300. (B4)
META-XYLENE	UG/L	.100	300. (B4)
ORTHO-XYLENE	UG/L	.050	300. (B4)
1,1-DICHLOROETHYLENE	UG/L	.100	7.0 (D1)
ETHLYENE DIBROMIDE	UG/L	.05	50. (G)
METHYLENE CHLORIDE	UG/L	.500	1750. (D3)
TRANS-1,2-DICHLOROETHYLENE	UG/L	.100	350. (D3)
1,1-DICHLOROETHANE	UG/L	.100	N/A
CHLOROFORM	UG/L	.100	350. (A1+)
1,1,1-TRICHLOROETHANE	UG/L	.020	200. (D1)
1,2-DICHLOROETHANE	UG/L	.050	5.0 (D1)
CARBON TETRACHLORIDE	UG/L	.200	5.0 (D1)
1,2-DICHLOROPROPANE	UG/L	.050	10.0 (G)
TRICHLOROETHYLENE	UG/L	.100	5.0 (D1)
DICHLOROBROMOMETHANE	UG/L	.050	350. (A1+)
1,1,2-TRICHLOROETHANE	UG/L	.050	.60(D4)
CHLORODIBROMOMETHANE	UG/L	.100	350. (A1+)
TETRACHLOROETHYLENE	UG/L	.050	10.0 (C2)
BROMOFORM	UG/L	.200	350. (A1+)
1,1,2,2-TETRACHLOROETHANE	UG/L	.050	0.17(D4)
CHLOROBENZENE	UG/L	.100	1510. (D3)
1,4-DICHLOROBENZENE	UG/L	.100	5.0 (B1)
1,3-DICHLOROBENZENE	UG/L	.100	130. (G)
1,2-DICHLOROBENZENE	UG/L	.050	200. (B1)
TRIFLUOROCHLOROTOLUENE	UG/L	.100	N/A
TOTAL TRIHALOMETHANES	UG/L	.500	350. (A1)
STYRENE	UG/L	.05	46.5 (D2)